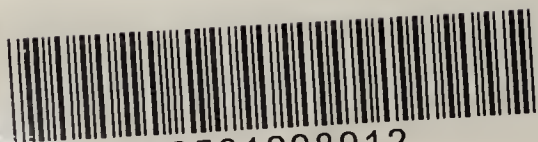




ANNUAL REPORT 1964-1965

COMMONWEALTH DIRECTOR-GENERAL OF HEALTH

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CONTENTS

5	Introduction	48	National Biological Standards Laboratory
10	National Health Benefits	50	Commonwealth Acoustic Laboratories
18	Tuberculosis	53	Commonwealth X-ray and Radium Laboratory
20	Public Health	56	Commonwealth Bureau of Dental Standards
23	Therapeutic Substances	58	Institute of Anatomy
24	Quarantine	59	National Health and Medical Research Council
29	Australian Capital Territory Health	61	World Health Organization
33	Northern Territory Health	64	Commonwealth Grants
38	National Fitness	72	Appendix 1—Statistics
40	Commonwealth Health Laboratories	92	Appendix 2—Publications
42	School of Public Health and Tropical Medicine	95	Directory of Senior Officers
46	Institute of Child Health		

*The Honourable R. W. C. Swartz, M.B.E., E.D., M.P.,
Minister for Health,
Commonwealth of Australia.*

*I present herewith my report of the activities
of the Commonwealth Department of Health
for the year ended 30th June, 1965.*

*W. D. Refshauge,
Director-General of Health,
31st August, 1965,
Canberra, A.C.T.*

INTRODUCTION

With the development of modern science and the rapid advances being made in technology not only in the scientific and engineering fields, but also in the field of business management the need for Commonwealth Departments to keep abreast of modern developments and to ensure that the advances that are being made are most advantageously applied has never been greater. In common with all other departments of the Commonwealth Public Service, the Department of Health is striving to improve its efficiency in all fields. However, the breadth and variety of the activities of this Department are not perhaps as widely known as that of most other departments, whose spheres of activity are not spread to such an extent. Hence, there is not, perhaps, as wide an appreciation of the high degree of professional and managerial skill that is required for the administration of a Department with such complex functions.

On the one hand there is the professional competence needed for the efficient provision to the public of many services of a medical and specialised nature. These include, of course, the direct services given by the Commonwealth Medical Officers in each of the State offices. One of their duties, the medical examinations and inspections of passengers and crews of ships and aircraft arriving from overseas, is vital for the prevention of the entry of the quarantinable diseases, which could create such havoc if they were ever to gain access into this country. The direct services to the public given by officers of the Department in the Northern Territory, where the provision of hospital and dental services is the responsibility of the Department, and the preventive medical work carried out by the A.C.T. Division to ensure the purity and cleanliness of food and water supplies to the populace are also prime examples of the diversity of work carried out by the Department.

In the sphere of research, our activities are even more widely diversified and perhaps even less known than those which provide a more direct and more publicised benefit or service

to the public. The Commonwealth Acoustics Laboratories, for example, in addition to issuing and maintaining hearing aids for children and other eligible persons, is carrying out research into the physiological and psychological effects of noise, and into the comparatively new field of medical ultrasonics. The School of Public Health and Tropical Medicine and the Institute of Child Health, both of which are situated at the University of Sydney, while continuing to carry out their teaching functions, are proceeding with a large number of research projects on subjects closely allied with their spheres of activity. The two Departmental laboratories located in Melbourne, the Commonwealth X-ray and Radium Laboratory and the Bureau of Dental Standards, are also engaged in research projects connected with the measurement of both natural and man-made radioactivity and dental materials respectively. At the same time, in Canberra, the National Biological Standards Laboratories investigates the introduction and improvement of methods for the testing of pharmaceutical products; the Institute of Anatomy, which is most noted for its museum section, carries out research into problems of nutrition.

I feel that insufficient cognizance is taken, when discussion is centred on the activities of the Health Department, of the great amount of medical and scientific information and secretarial services provided to the many high-level medical and scientific committees that have been set up to advise the Government. In addition to the work done to service the National Health and Medical Research Council itself, of which the Director-General is Chairman and the First Assistant Director-General, National Health and Medical Research Council Division, Secretary, officers of the Department are either chairman, deputy chairman or convener of all the Council's three advisory and 15 other committees and its 16 sub-committees.

Besides the N.H. & M.R.C., which is, of course, the largest and most important of the committees for which Departmental officers supply information and secretarial services, there are a number of others, including the

National Tuberculosis Advisory Committee, the Pharmaceutical Benefits Advisory Committee, the Commonwealth Health Insurance Council, the Commonwealth Council for National Fitness, and the Biological Products and Therapeutic Substances Standards Committees.

On the managerial side the Department has to administer a number of Acts, totalling 14 in all, a proportion of which involve arrangements with State Governments whereby the States perform a number of functions for which the Commonwealth accepts full or partial financial responsibility. An example which comes readily to mind is the Tuberculosis Act, 1948, under the provisions of which arrangements have been made with the States whereby the Commonwealth has met all expenditure incurred since 1st July, 1948 on new tuberculosis clinics, hospitals and equipment, met all increases in the day to day maintenance costs of the tuberculosis campaign (including the cost of X-ray surveys, clinics, sanatoria, and hospitals) and paid special allowances to sufferers from infectious tuberculosis.

Departmental expenditure from the National Welfare Fund, which may be taken as a close guide to expenditure on the National Health Scheme, in 1964-65 for the first time, exceeded £100 million (£103.3 million) an increase of 213 per cent in the last ten years.

A unique feature of this expenditure is that, unlike most Governmental expenditure, the benefit to the individual is not direct, but through an intermediary. In the medical and hospital benefits schemes, both of which are based on the insurance principle of providing benefits to members of registered medical and hospital benefits organizations, the Commonwealth benefits are paid to the contributor through the registered organizations. Similarly the individual receives no direct payment under the pharmaceutical benefits scheme or the pensioner medical service, where the payments are made to the chemists and doctors respectively. The position is further complicated by the fact that the chain of events resulting eventually in the expenditure of Commonwealth moneys is initiated not by the Department but by the individual patient and doctor. These factors have a tendency to make the control of expenditure and the general administration of the Health Department more difficult, particularly when combined with the fact that the scope of the Commonwealth's participation in the health field is widening year by year.

At the beginning of this financial year a step was taken which has led to the more efficient

organization and administration of the multiple functions of the Department. A re-organization of the Department's higher positions was completed in mid-1964. As a result of this re-organization, particular functions have been clearly allotted to particular professional and administrative management officers, who are now clearly responsible for the proper administration of the activities concerned.

At present claims by chemists for reimbursement of the cost of prescriptions dispensed under the pharmaceutical benefits scheme are manually checked for correctness and processed in the State offices of the Department. The stage has now been reached, when it will be possible to progressively introduce the processing of these claims by automatic data processing, commencing early in the next financial year (1965-66). After close consultation with the Australian Medical Association and the Federated Pharmaceutical Service Guild of Australia arrangements have been made for doctors to write prescriptions on forms which have been designed to enable easy processing by data processing operators and for chemists to code prescriptions dispensed. As a "pilot" test run of procedures planned for the introduction of automatic data processing of all pharmaceutical benefit claims, about 70 chemists in the Toowoomba-Ipswich area of Queensland submitted their claims for June 1965 in coded form. The tapes prepared were then sent to be processed on a C.D.C. 3600 computer under the control of the Bureau of Census and Statistics in Canberra. The computer priced each prescription and printed a detailed statement of account for each chemist's claim, a copy of which was sent to the chemist.

The procedures evolved proved successful and steps have been taken to introduce the remainder of the State in stages so that by 31st December, 1965 all chemists in Queensland will be brought into the scheme.

The scheme will then be introduced in the other States, commencing with South Australia, followed by Western Australia, New South Wales, Tasmania and Victoria. The actual date of introduction in each of the States will depend on the experience gained in Queensland and on the availability of machines and of trained staff in each of the States.

Not only will the introduction of the automatic data processing facilitate and expedite the payment of chemists' claims with less expenditure of effort by departmental officers, but a fund of management control information will be made available to the higher echelons

of the department which will prove invaluable in the future administration of the pharmaceutical benefits scheme.

It is essential that professional officers of the Department, perhaps even more so than private practitioners, keep abreast of modern developments in their fields. Every suitable opportunity is taken for departmental officers to keep in touch with developments in their professions by attendance at professional gatherings where, by discussion with leaders in the field, not only the breadth of their knowledge may be widened, but they are able to contribute towards the expansion of the fund of information on the subjects discussed. An illustration of this is the attendance by Departmental officers at the three day conference organized by the Australian Postgraduate Federation in Medicine on the subject of clinical cancer. The conference was attended by experts from all over the country and by a world authority on therapeutic treatment from the United States of America. A number of matters discussed at the conference concerned this Department, either in its national role or in its responsibility for health services in the Australian Capital Territory or the Northern Territory.

Another illustration is the attendance by senior officers at the Australian Administrative Staff College at Mount Eliza, Victoria. Since the inception of the College in 1955, five senior officers, including both professional and non-professional officers, have attended the advanced course at the College. As the members of each session at the College are selected so as to provide the widest possible range of knowledge, training and experience, these officers have had the opportunity to study the methods used in other enterprises and to examine the significance of their own work in relation to the national economy. This has achieved the aim of raising the level of management and administration in the Department and has assisted in preparing them to accept the burdens of responsibility which increase each year with the expansion and diversification of the Department's activities.

Another means by which officers of the Department are able to broaden the horizons of their knowledge, and at the same time inform people of other countries of the steps being taken and progress made in their aspect of the department's activities, is by making visits to overseas countries, particularly to attend conferences and seminars.

Because of the way in which the administration of the varied facets of departmental admin-

istration have developed by mainly providing benefits to the people of Australia through intermediaries, the importance attached to consultation with other individuals and organizations concerned with health services cannot be overemphasized. In recent years machinery has been developed so that regular consultation now takes place with interested bodies. Arrangements have been made for periodical conferences with the Australian Medical Association on subjects connected with the medical profession's participation in the National Health Scheme, and with the Federated Pharmaceutical Service Guild of Australia, through the Joint Committee on Pricing Arrangements. Consultation with the registered medical and hospitals benefits organizations is maintained at meetings of the Commonwealth Health Insurance Council. Through meetings of the committees and sub-committees of the National Health and Medical Research Council, and by direct contact, close co-operation and understanding has been effected with the State health authorities.

The success which has identified the great progress in the development of departmental activities can be attributed in no small measure to the co-operation of these interested bodies. I should like to express my appreciation of their assistance, particularly over the past year, and hope that their co-operation will be forthcoming to a similar extent in the future.

Prescribers' Journal

During 1964-65 a survey of readers of the Prescribers' Journal, which has been issued to doctors in Australia since August, 1962, was conducted to ascertain their opinions of the Journal. A questionnaire was forwarded to a sample of approximately 10 per cent of doctors and 711 completed questionnaires were returned. Almost all comments received were of a complimentary nature and an analysis of the replies received indicated that the Journal has been well received and has proved a useful adjunct to a doctor's armoury. I would like to thank all those doctors who co-operated by returning completed questionnaires and for their informative and constructive comments for the improvement of the Journal.

Australian Drug Evaluation Committee

In June, 1963 an expert independent committee, known as the Australian Drug Evaluation Committee, was set up to report on the safety of drugs being introduced onto the Australian market. In the short period it has been functioning, of little more than two years, the Committee has developed, not only as the

accepted Australian authority, but its work is recognised in other countries.

International Agency for Cancer Research

It was proposed at the 17th World Health Assembly in Geneva in 1964 that an International Agency for Cancer Research be set up. The Agency, which is to operate as a semi-autonomous body to the World Health Organization was agreed to by the 18th World Health Assembly. Australia has indicated its desire to become a contributing member. The nations which have agreed to contribute will pay \$150,000 or £A67,600 approximately.

The Agency will plan, promote and develop research into the causes, treatment and prevention of cancer. It will sponsor a regular programme of research and will also carry out special projects of interest to particular countries. In these cases the countries concerned would make additional contributions to the Agency. There will be direct consultation between the participating countries on all problems and each will share in the latest information from the leading research laboratories. They will also have access to international registers of research materials such as human neoplasms and animal tumours.

The need for such an agency has long been felt and its establishment has been a most important step forward in the battle being waged against cancer. Cancer has been assuming greater importance each year in the developed countries of the world and, with the creation of the International Agency for Cancer Research, not only will Australia benefit from advances made in other participating countries but will be able to contribute much towards the conquest of this disease.

Pharmaceutical Benefits

In spite of the fact that the picture has been confused to a certain extent by an epidemic of respiratory diseases in July and August, 1964, it is apparent that the trend for doctors to write more prescriptions for each patient continued in 1964-65, when the average number of prescriptions per head of population increased from 4.0 in 1963-64 to 4.3 in 1964-65.

In my report for the year ended 30th June, 1964, I referred to the trend for hypnotic drugs, mainly the barbiturates, to absorb an increasing proportion of the total number of prescriptions written, increasing from 8.8 per cent of the total in 1961-62 to 10.8 per cent in 1962-63 and rising still further to 12.4 per cent in 1963-64. The proportion of prescriptions for hypnotic drugs for 1964-65 was 12.6 per cent.

There was an appreciable increase in the proportion of prescriptions for the antihistamine group of drugs, 4.8 per cent of the total in 1964-65 compared with 4.3 per cent in 1963-64.

In looking at these figures it must be remembered that there was a substantial increase in the total number of prescriptions written attributable mainly to the epidemic of respiratory diseases mentioned above. Comparing the actual number of prescriptions for hypnotics and antihistamines, the figures for 1963-64 and 1964-65 were:—

	No. of Prescriptions (000's)		Percentage increase
	1963-64	1964-65	per cent.
Hypnotics	5526	6086	10.1
Antihistamines ..	1935	2304	19.1

Consideration of the increasing number of prescriptions written each year leads one to ask whether this increased use of drugs is bringing about better health in the community.

There is no doubt that the drugs in use today are enabling cures to be effected much more quickly than was possible in the past, and that the introduction of many drugs in recent years has changed the picture of morbidity and mortality in this country. From this the conclusion tends to be automatically drawn that the health of the nation is improving. However, notwithstanding tremendous advances in medical knowledge, skill and techniques, the number of approved hospital and nursing home beds has increased steadily, and the number of attendances per annum by general practitioners for each person covered by the medical benefits scheme, has also increased, in the latter case by 10 per cent in the last five years.

In the light of these facts, I believe that there is need for serious reflection by public health authorities, the medical profession and indeed by every person interested in health matters, as to whether the ever increasing use of a wider range of drugs is really bringing about a better state of health in the people of this country.

Infectious and Quarantinable Diseases

It is pleasing to note that the immunization programmes against poliomyelitis, financed by the Commonwealth, seem to be achieving the desired result. With only three cases being notified in 1964-65, the lowest number ever recorded in Australia, we can hope that with continued vigilance and a sustained effort, using both Salk and Sabin vaccine, this once dread disease will be eradicated from this country.

An outbreak of influenza affecting most countries in the Northern Hemisphere early in 1965 and an epidemic of type B influenza in New Guinea during February and March caused some concern in Australia. Although there was a fairly heavy incidence of respiratory disease, notably in Victoria, in June, 1965, no epidemic was reported during 1964-65 and the Commonwealth Serum Laboratories have been able to meet all demands for polyvalent influenza vaccine.

The World Health Organization has reported that the incidence of cholera and plague, two of the most important quarantinable diseases, was higher in 1964 than in the previous year. The number of cases of cholera increased from 65,157 to 81,407, while the number of cases of plague increased from 862 to 1,457. When these increases are viewed in the context of the ever increasing speed of air travel, with its attendant danger of the spread of infection, the importance of the safeguards given by an effective quarantine service becomes apparent. It is to the credit of the quarantine service in this country that no case of quarantinable disease has entered for many years.

During the year there was an outbreak of haemorrhagic fever in Malaysia. Actually this disease has been present in South East Asia since 1954. The virology of this disease has not been thoroughly worked out, but the aetiology is probably bound up with the dengue group and the insect vector is thought to be *Aedes Aegypti*.

In view of the rather heavy mortality amongst children and because of the increasing air travel between these countries and Australia, our health authorities have considerable interest in this disease. It was considered by the last meeting of the Public Health Advisory Committee of the National Health and Medical Research Council and will be further considered at the next meeting of that Council. In the meantime our quarantine activities have been maintained at a high level to try and prevent vectors of this and other diseases arriving in aircraft. This is another reason for the spraying with insecticide of the cabins of overseas aircraft on arrival at the first port of call in Australia. This sometimes gives rise to criticism by passengers but is a safeguard which cannot be overemphasized.

A Quarantine Inspector disinfecting an overseas aircraft hold.



NATIONAL HEALTH BENEFITS

Expenditure on National Health Benefits, which comprise hospital benefits, medical benefits, pharmaceutical benefits and payments made under the Pensioner Medical Service, increased by £8.1 million in 1964-65, the greatest increase being in the medical benefits scheme.

Expenditure on medical benefits increased from £12.4 million in 1963-64 to £17.6 million in 1964-65, the rise being due principally to the introduction of a new schedule of Commonwealth benefits, which came into operation on 1st June, 1964. The effect of the new schedule was to increase benefits by $33\frac{1}{3}$ per cent. However, in a number of instances, because of

alterations to benefits to adjust anomalies, the increase was greater than $33\frac{1}{3}$ per cent.

Hospital benefits and pharmaceutical benefits expenditure also increased, rising by £1.3 million and £1.7 million to £29.4 million and £41.1 million respectively. Expenditure on services by medical practitioners under the Pensioner Medical Service fell by £105,000 in 1964-65, due to a reduction in the number of services per enrolled person from 8.9 in 1963-64 to 8.6 in 1964-65.

The graph illustrates the upward trend in national health benefits over the last five years.

HOSPITAL BENEFITS

There was no change during 1964-65 in the conditions under which hospital benefits are provided or in the rates of these benefits. The rates of Commonwealth benefits remained at the level set out in the 1963-64 Annual Report.

Commonwealth benefits paid towards meeting the cost of hospital and nursing home treatment totalled £29,395,321 in 1964-65, an increase of 4.6 per cent over the previous year. Amounts paid by registered organizations by way of hospital fund benefits also increased from £21,640,000 in 1963-64 to £24,910,000 in 1964-65. The main factors in this increase are referred to in the following section of this report headed "Insured Patients in Approved Hospitals".

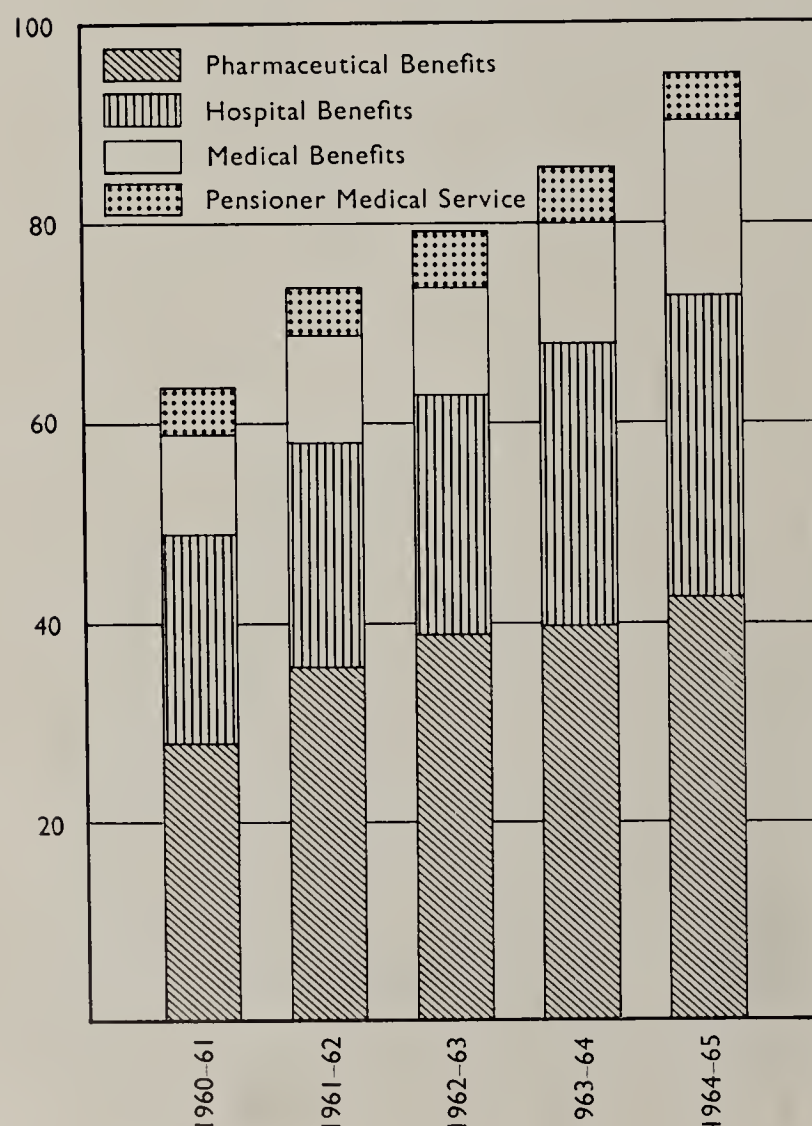
Statistics relating to hospital benefits are set out in Tables 2 to 7 on pages 72 to 74.

Insured Patients in Approved Hospitals

The number of registered hospital benefits organizations fell from 112 at 30th June, 1964 to 111 at 30th June, 1965. However, the number of contributors and their dependants covered by these organizations increased from 8,194,000 at 30th June, 1964 to 8,720,000 at 30th June, 1965. This continued expansion, with some 77 per cent of the population now covered, is indicative of the continued success and popularity of the Scheme.

In addition to the 77 per cent of the population covered, a further 10 per cent are catered for by the Commonwealth under the Pensioner

Expenditure on National Health Benefits
1960-61 to 1964-65
£ Million



Medical Service and Repatriation benefits. Also, the system of no charge being made in the public wards of Queensland's public hospitals has affected the percentage covered by voluntary health insurance in that State—only 51 per cent compared with the overall Commonwealth figure of 77 per cent.

This continued success is largely due to the initiative and drive of the registered organizations, which have played a major role in carrying the benefits to the community. These organizations have actively co-operated with the Government and the Department in making the Scheme attractive to the public and have provided the means whereby each individual is able to obtain adequate insurance cover against the cost of hospitalization.

During the year public hospital fees were increased in Victoria, South Australia and Tasmania. Organizations operating in these States introduced new tables providing higher benefits to cover the increased charges.

The increase in fund benefit of £3,270,000 over the previous year's figure was due principally to the higher benefits provided in the new tables introduced by the funds during the year and to the increased volume of hospitalization arising from the growth in the number of persons covered by the Scheme.

Commonwealth benefits for insured patients (excluding Special Account benefits) increased from £9,328,348 in 1963-64 to £9,610,284 in 1964-65. This was a reflection of the heavier utilization due to the greater number of persons covered by the Scheme.

Special Accounts

During 1963 the Commonwealth Health Insurance Council examined the effects which the Special Accounts system had produced on the operations of the registered hospital benefit organizations and on the individual contributors. It concluded that some of the original Special Account provisions contained undesirable features which had reacted to the disadvantage of individual contributors and recommended certain changes which would correct this situation and which would enable the organizations to provide more satisfactory benefits in these cases. Consequent upon these recommendations, certain changes outlined in the 1963-64 Annual Report were made to the Special Account system from 1st January, 1964.

Experience to date has shown that the changes have achieved the objectives they were designed to meet. They have removed some serious causes of public dissatisfaction, such as the over 65 transfer provision and the restric-

tion on benefits in excess of the hospital charge. They have enabled the funds to avoid to some extent the problem of excessive surpluses and to divert some part of this excess into the hands of contributors by way of extended benefits. The funds have thus been able to bear a greater share of the burden of providing coverage for the sick.

The effects of the twenty-one day concession are becoming increasingly felt and thus more helpful to the funds. It is still too early to say whether the concession provides an adequate measure of compensation to the funds, but indications are that it is being used more often by the funds.

The repeal of the requirement that contributors over 65 years of age must be transferred to the Special Account has had a marked effect on the size of Special Account membership which fell from 317,012 at 31st December, 1963 to 29,839 at 30th June, 1965. At the same time the Commonwealth liability for Special Account deficits decreased from £1,874,623 in 1963-64 to £1,788,091 in 1964-65.

The various changes introduced on 1st January, 1964 have resulted in the organizations bearing a greater liability for fund benefits in their Ordinary Accounts. Until the final 1964-65 accounts of all organizations are available it is not possible to determine the extent of this additional liability. However, it is evident that the changes have corrected a position which had caused dissatisfaction in individual cases and have resulted in an improvement in the Hospital Benefits Scheme.

Provision for Pensioners in Approved Hospitals

During 1964-65 Commonwealth expenditure under the arrangements for the payment of a benefit of 36/- a day for each day that an eligible pensioner or dependant receives public ward treatment in a public hospital totalled £6,792,262 compared with £6,677,085 in 1963-64.

Uninsured Patients in Approved Hospitals

The Commonwealth pays a benefit of 8/- a day for each day that an uninsured patient, except eligible pensioners who receive free public ward treatment, receives treatment in an approved public or private hospital. Expenditure on Commonwealth hospital benefits for uninsured patients during 1964-65 amounted to £1,307,056.

Patients in Approved Nursing Homes

Commonwealth Nursing Home benefits paid during 1964-65 amounted to £9,897,878, an increase of £957,967 over the previous year.

This increase reflects the growth in the number of approved nursing homes throughout the Commonwealth and is a clear indication of the generous assistance which the Commonwealth is providing in this area. Naturally, the great majority of people assisted by this benefit are aged persons.

Approval of Hospitals and Nursing Homes

The National Health Act empowers the Director-General of Health to approve premises as approved hospitals or approved nursing homes for the purposes of the payment of Commonwealth benefits under the Act.

The following are details of new premises approved in 1964-65:—

	No.	Beds
Hospitals—		
Public	8	577
Private	9	200
Total	17	777
Nursing Homes—		
Public	5	245
Private	91	1,967
Total	96	2,212

After taking into consideration variations arising from revocation of approvals and adjustment of bed capacities, the number of approved premises and beds as at 30th June, 1964, and 30th June, 1965 were—

	30.6.64	30.6.65
Approved Hospitals—		
No.	1,142	1,129
Beds	70,216	71,293
Approved Nursing Homes—		
No.	948	1,022
Beds	28,685	31,290

Verification of Commonwealth Benefit Payments

During the year the verification of Commonwealth benefits allowed through registered hospital and medical benefits organizations, approved private hospitals and approved private nursing homes by Departmental officers was maintained. In addition, the arrears which existed at 30th June, 1964 in some of the less important aspects of the inspections programme were overcome by 31st December, 1964.

The verification of Commonwealth benefits paid direct to State controlled public hospitals and nursing homes is carried out on behalf of the Commonwealth by the State Auditors-General.

MEDICAL BENEFITS

The major development in the Medical Benefits Scheme during 1964-65 was the introduction

by registered organizations of new medical benefits tables offering higher returns to contributors for increased contributions. The new tables were introduced in all States except Western Australia on 1st April, 1965.

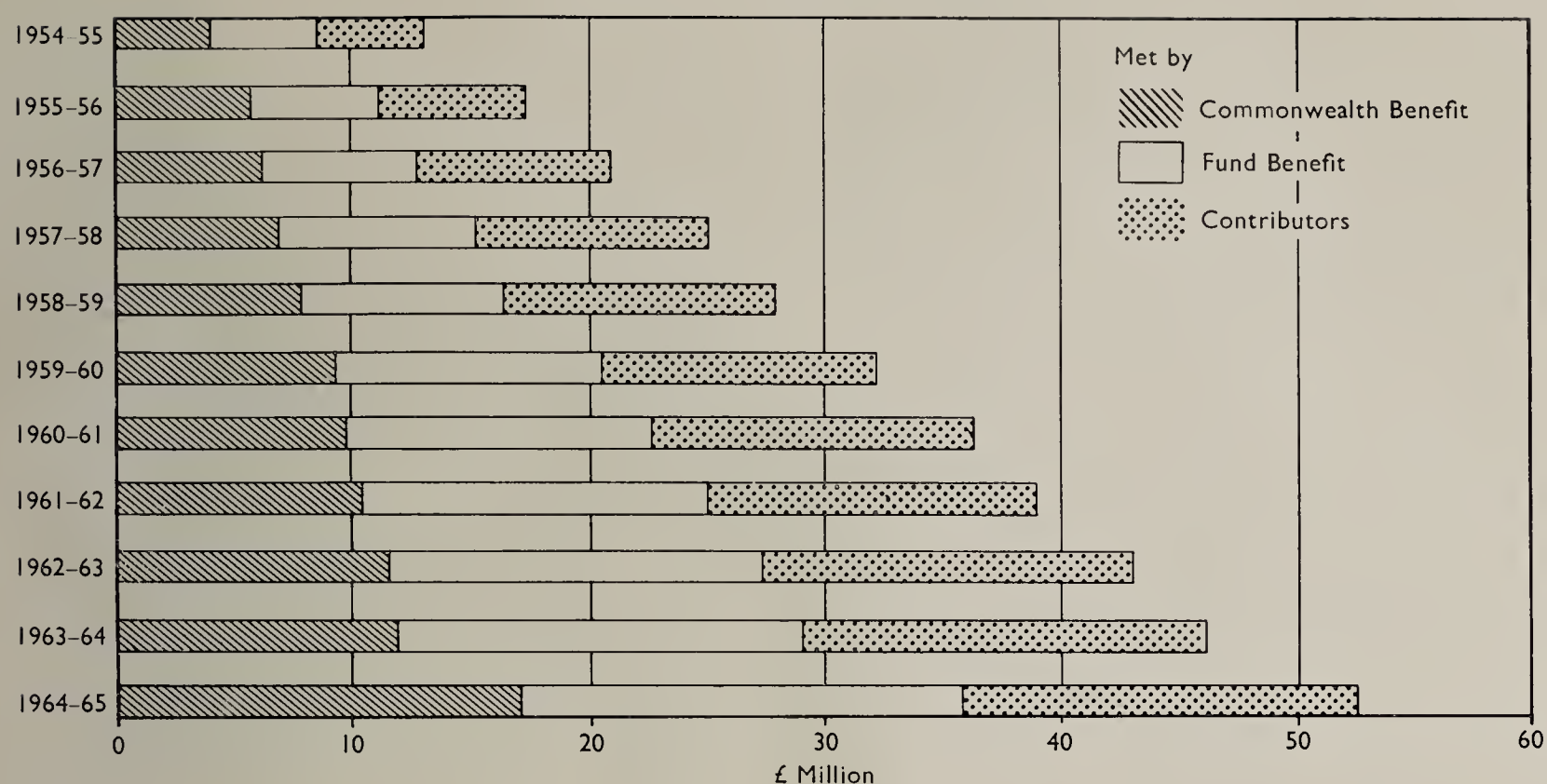
Prior to the introduction of the new tables, the Commonwealth Health Insurance Council held two meetings at which it studied the recent financial experience of medical funds generally, the level of fees charged for various medical services in each State and the effects of the increased Commonwealth medical benefits which had come into operation on 1st June, 1964.

As a result of its discussions, the Council made recommendations to the Minister as to the appropriate rates of benefit and contributions which should apply to new benefit tables in each State. The Council also recommended that new tables should be introduced as from 1st April, 1965.

There were two main reasons for the new tables. The first was the need to stabilise the financial security of the funds generally. In most States there had been a steady rise in the volume of medical services sought under the Medical Benefits Scheme and contribution rates had to be raised to cover the extra utilization. The average number of contributor claims for medical services under the health insurance scheme has risen from 6.5 per year in 1958-59 to 8.3 per year in 1964-65. The second reason was the need to reduce the gap between the cost of medical services and the combined Commonwealth and fund benefits. The increase in Commonwealth benefits from 1st June, 1964, had been a first step towards narrowing the gap and the new fund tables were designed to reduce it still further for people willing to pay higher weekly contributions.

Following the Commonwealth Health Insurance Council's meeting, the registered medical benefit organizations met in each State to prepare plans for new tables. At these meetings, agreement was reached both on the basis of new tables which the funds would offer in each State and on the measures which should be adopted to improve the financial experience of existing tables. These meetings led to uniformity in action by the various organizations in each State and most organizations introduced higher benefit tables on 1st April, 1965. No new tables have as yet been introduced in Western Australia, the organizations in that State having decided to defer action in this matter for the present.

**Cost of Medical Services Received by
Contributors to Registered Organizations**



The new tables have proved most popular and organizations report that there has been a substantial movement of members to them.

The increase in Commonwealth benefits from 1st June, 1964, is reflected in the rise in the amount of Commonwealth benefits distributed through registered medical benefits organizations during 1964-65. Expenditure amounted to £17,638,292, an increase of 42.0 per cent over the previous year. It is of interest to note that the proportion of the cost of services covered by Commonwealth benefits rose from 26.0 per cent in 1963-64 to 32.9 per cent in 1964-65, while the share of the cost borne directly by the contributor fell from 37.2 per cent in 1963-64 to 31.9 per cent in 1964-65.

The full effects of the higher fund benefits available as from the 1st April, 1965 have not yet been felt and are not reflected in the 1964-65 figures.

The Medical Benefits Scheme continued its steady growth during 1964-65 and at 30th June, 1965, some 75 per cent of the population were covered by 80 registered medical benefit organizations. No new applications were received during the year for registration as medical benefits organizations.

Special Accounts

The Special Account arrangements, which were introduced from 1st January, 1959, to ensure that fund benefits are made available for contributors who would otherwise be

excluded from benefits by organizations' pre-existing ailment and maximum benefit rules, continued to operate smoothly during 1964-65.

COMMONWEALTH HEALTH INSURANCE COUNCIL

The Commonwealth Health Insurance Council, which is an advisory body appointed to advise the Minister for Health on matters relating to the Hospital and Medical Benefits Schemes and to recommend to him ways and means by which improvements in methods and standards may be effected, met in Canberra twice during the year—in October, 1964, and in March, 1965.

As indicated earlier the main topic considered at these meetings was the question of the formulation and introduction of new medical benefit tables. The Council also considered a number of other problems associated with the operation of the Medical and Hospital Benefits Schemes.

REGISTRATION COMMITTEE

The Registration Committee met on 36 occasions during 1964-65 and made recommendations on 192 proposals submitted by organizations. The great majority of these proposals related to the new medical benefit tables which came into operation on 1st April, 1965. No recommendations for registration as medical or hospital benefits organizations were made during the year.

PENSIONER MEDICAL SERVICE

Doctors participating in the Pensioner Medical Service are remunerated by the Commonwealth on a concessional fee-for-service basis. During the year, as a result of negotiations between the Commonwealth and the Australian Medical Association, the fees payable to doctors were increased by 4s. to 16s. for surgery attendances and by 6s. to 20s. for home visits. The increased fees apply from 1st May, 1965, and will be subject to review after two years.

The Pensioner Medical Service has grown steadily since its inception in 1951 and by 30th June, 1965, the number of pensioners and their dependants enrolled had reached 849,000. This represents 7.5 per cent of the population.

The number of doctors participating in the Service remained constant and at 30th June, 1965, 5,896 doctors were enrolled, compared with 5,899 at 30th June, 1964. The average annual payment to each participating doctor during the year was £789, and the total payments by the Commonwealth to participating doctors totalled £4,660,204.

Statistics relating to the Pensioner Medical Service are set out in Tables 14 to 17 on pages 76 and 77.

Committees of Inquiry

In accordance with the provisions of Section 110 of the National Health Act, Medical Services Committees of Inquiry have been established in each State. These Committees finalised 46 inquiries into the provision by medical practitioners of medical services to pensioners during 1964-65. These inquiries resulted in the reduction of doctors' claims by a total of £17,334 in 28 cases and of these two medical practitioners were reprimanded by the Minister and one agreement was terminated.

PHARMACEUTICAL BENEFITS

The operations of the Pharmaceutical Benefits Scheme were affected, to a marked degree, in 1964-65 by an epidemic of the respiratory and associated viral type disease, the main effect being generally felt in the months of July and August, 1964, with a return to normal in the ensuing months. A pronounced increase in the prescribing of antibiotics occurred. This can be attributed, in part, to the abnormal incidence of respiratory disease in the first quarter of the year, and, in part, to the easing of restrictions on the use of erythromycin and the wider use of the semi-synthetic penicillin, phenethicillin.

The tendency for doctors to write more prescriptions for each patient persisted in 1964-65,

resulting in an increase in the volume of benefit prescriptions, in normal months, in excess of that which could be expected as a consequence of population growth. Price reductions for some items on the benefits list made by some manufacturers during the year were nullified to some extent by the increased prescribing, which included a greater proportion of high cost drugs than in 1963-64. The average cost per prescription was further affected by the increase in the prescribing of high cost, ready prepared benefits as against extemporaneous preparations made up by the pharmacist in the dispensary. In the first six months of 1964-65 the average cost per prescription fell to 18s. 3d. from 18s. 7d. recorded in 1963-64. However, in the second half of the year a change in the prescribing pattern resulted in an increase to 18s. 6d. and the average cost per prescription for the year was 18s. 4d.

There was a steep increase in the use of the antihistamine group of drugs and the prescriptions for the hypnotic group also increased to a greater extent than the overall prescription volume increase, although in this case the percentage increase was somewhat smaller than that recorded in the previous year. A substantial increase in expenditure has occurred in the blood vessel drugs following the introduction of methyldopa in November, 1963.

Changes in the List of Benefits

During the year a number of changes were made to the list of pharmaceutical benefits, both by way of additions and deletions.

As a result of recommendations of the Pharmaceutical Benefits Advisory Committee, 38 new preparations were added to the list of benefits. The most important was the broadening of the scope of the scheme by the addition of drugs in two therapeutic groups not previously represented, namely, the anti-depressants and anti-emetics. Among other new preparations added to the list of benefits were anti-cholinergic and anti-spasmodic drugs, non-mercurial diuretics and anabolic steroids, as well as drugs for the treatment of heart conditions, leukaemia and Parkinsonism. A number of new forms and strengths of existing pharmaceutical benefits were introduced during the year. These included eight preparations for the treatment of eye conditions, seven antibiotics, five preparations for the treatment of nervous disorders, and four antihistamine preparations. On the Committee's recommendation several drugs were removed from the list of benefits. In the main these drugs

had been replaced by newer and more effective preparations.

Acting on the advice of the Australian Drug Evaluation Committee, the Pharmaceutical Benefits Advisory Committee recommended that repeats be not allowed for long-acting sulphonamide tablets.

Price Negotiations

Drug prices are continually under review by the Department and considerable attention is devoted to price negotiations with drug manufacturers. Negotiations with manufacturers during 1964-65 resulted in price reductions which would have saved the Commonwealth approximately £2,500,000 in a full financial year if the rate of prescribing of these drugs had remained constant.

Although reductions in price have been effected in respect of most therapeutic groups of drugs, those reductions with the greatest financial effect were in respect of commonly used drugs, such as analgesics, antibiotics, hypnotics and antihistamines.

Pricing by Computer Processing

During the year further steps were taken towards the introduction of a scheme by which prescriptions will be individually priced and the total amount due to a chemist determined by computer processes.

Under the scheme, chemists will be required to enter coding details relevant to the benefit dispensed on the prescription form, instead of entering pricing details as at present. A standard prescription form, designed to enable the chemist to enter the required information clearly on a tinted margin, has been widely distributed throughout Australia in response to orders placed by individual doctors with a nominated printer. The coded information on prescriptions submitted to this Department for payment will be punched on to paper tape in the State Divisional offices of the Department and the paper tape forwarded daily to Canberra for computer processing.

The scheme was introduced in Queensland. A small group of chemists, approximately 70 in number and mainly from the Ipswich and Toowoomba areas, have begun coding their prescriptions from 1st June, 1965. These prescriptions were submitted to the Department during July and will be processed through the computer, when each chemist received a computer-prepared detailed statement of account showing the price paid for

each of his submitted prescriptions and a summary of his total payment.

Following this initial testing period of all aspects of the scheme, all chemists in Queensland will be brought into the scheme, followed by chemists in South Australia, Western Australia and New South Wales. Training facilities for operators have already been provided in these State Offices and similar facilities will be provided in the State Offices of Tasmania and Victoria during the coming year.

Metric System

During 1964-65 a step was taken in regard to the dispensing of medicines which could have far reaching effects in other fields. This was the introduction, as from 1st May, 1965, of the metric system of weights and measures for certain extemporaneously-prepared pharmaceutical benefits.

In order to co-ordinate the changeover to the metric system, a committee was formed of representatives of interested associations to advise on certain aspects of the changeover. This committee, known as the Metric System Committee for Pharmaceutical Benefits and comprising representatives of the Australian Medical Association, the Pharmaceutical Association of Australia, the Federated Pharmaceutical Service Guild of Australia and the Commonwealth Department of Health, made many valuable recommendations.

In order that they would have adequate time to make any arrangements they might deem desirable to support the change, the State Premiers were informed by the Prime Minister, in October, 1964, that the changeover to metric measuring in the Pharmaceutical Benefits Scheme would take place on 1st May, 1965. Articles on the changeover were published in professional and Departmental journals and a reprint of an article "The Change to Metric Measuring", published in the journal "Health", was forwarded to each medical practitioner in Australia. Metric conversion cards were also supplied to all medical practitioners.

The general public was informed of the changeover through press releases which were reported in the newspapers and through the media of radio and television. In addition, five million copies of an explanatory card "Metric Measuring of Medicines" were supplied free of charge to pharmacists for distribution to their customers. Each card carries instructions on the way to measure a metric dose and

other information relevant to metric measuring. The Prescribers' List, which is a set of formulations in common use published by the Department as a convenient list of standard formulations, is now published only in the metric system. This does not preclude doctors from writing prescriptions in the imperial system, for example for preparations not included in the Prescribers' List, should they so desire. However, the use of the metric system is encouraged in view of its advantages by way of simplicity and accuracy of dosage.

A high proportion of prescriptions for pharmaceutical benefits are now being written in the metric system as the result of the lead given and the assistance given by medical practitioners and pharmacists in the changeover has been most gratifying.

Prescribers' Journal

Six issues, comprising Volume 4 of the Journal, were printed and distributed during the year. Following numerous inquiries from the Territory of Papua and New Guinea, arrangements were made for distribution of the Journal in those areas by the Director of Public Health for the Territory.

A survey of readers of the Journal was conducted during the year. Questionnaires were forwarded to a sample of approximately 10 per cent of the doctors in Australia who receive the Journal. The 53.5 per cent response (711 doctors) was gratifying. The survey indicated very clearly that the Journal is read by a very high proportion of doctors. Of those who completed the questionnaire, 94 per cent usually read it. Articles giving assessments of new drugs were the most popular. Almost all comments on the Journal were complimentary and many valuable comments and suggestions were received.

Joint Committee on Pharmaceutical Benefits Pricing Arrangements

During the year the Standing Committee on Pricing Arrangements for Payments to Chemists for Pharmaceutical Benefits was reconstituted. This Committee, which previously comprised four representatives of the Pharmaceutical Guild and four Departmental members, has now been reconstituted under the name of the Joint Committee on Pharmaceutical Benefits Pricing Arrangements, with Guild and Departmental representation continued as before, but, for the first time, an independent chairman, Mr. Walter Scott, C.M.G., has been appointed.

The function of the Committee is to make recommendations to the Minister for Health on matters of principle in regard to the pricing of pharmaceutical benefits. The Minister has referred to the Committee for consideration an application by the Federated Pharmaceutical Service Guild of Australia for a review of the remuneration paid to chemists for dispensing pharmaceutical benefits.

Committees of Inquiry

In 1964-65 the Pharmaceutical Services Committees of Inquiry considered a total of 75 cases which had been referred to them.

Following the receipt of the Committees' reports on these references, four approved chemists received warnings from the Minister for Health, 34 received warnings from the Director-General of Health, 32 were reprimanded, while five gave satisfactory explanations to the committees and no further action was taken.

The Medical Services Committees of Inquiry considered seven matters which had been referred to them concerning the prescribing of pharmaceutical benefits. As a result of the Committees' recommendations, three medical practitioners were reprimanded by the Minister for Health for irregular or excessive prescribing, three received letters of warning from the Minister for Health concerning their irregular prescribing and another had his authorities to write prescriptions and treat pensioners revoked. In addition a total of £233, representing the cost of pharmaceutical benefits prescribed contrary to the National Health (Pharmaceutical Benefits) Regulations, was repaid to the Commonwealth by doctors.

Court Proceedings

Court proceedings were instituted against four approved chemists for breaches of the pharmaceutical benefits provisions of the National Health Act. Convictions were recorded in all cases.

Two doctors were fined for breaches of the National Health Act and ordered to repay to the Commonwealth a total of £2,771. Both doctors had been approved to supply pharmaceutical benefits under Section 92 of the National Health Act in respect of the districts where they were practising. One doctor had his authority to write prescriptions suspended for eight months. The other doctor's approvals under the National Health Act were revoked following the Court's decision.

Cost of Scheme

Commonwealth expenditure for the year on pharmaceutical benefits was £4,101,305, including £24,464,874 for prescriptions for the general public, £5,854,221 for benefits dispensed in public hospitals and for miscellaneous services, and £10,782,210 for prescriptions for pensioners.

The 1963-64 level of expenditure was exceeded by £1,234,375 in the case of general benefits prescriptions and by £481,353 in the case of pensioner benefits prescriptions. Payments for benefits supplied from public hospitals showed a slight decrease of £33,758. The total increase in expenditure of £1,681,970, or 4.3 per cent, was considerably in excess of the amount of £964,256 or 2.5 per cent by which 1963-64 exceeded 1962-63.

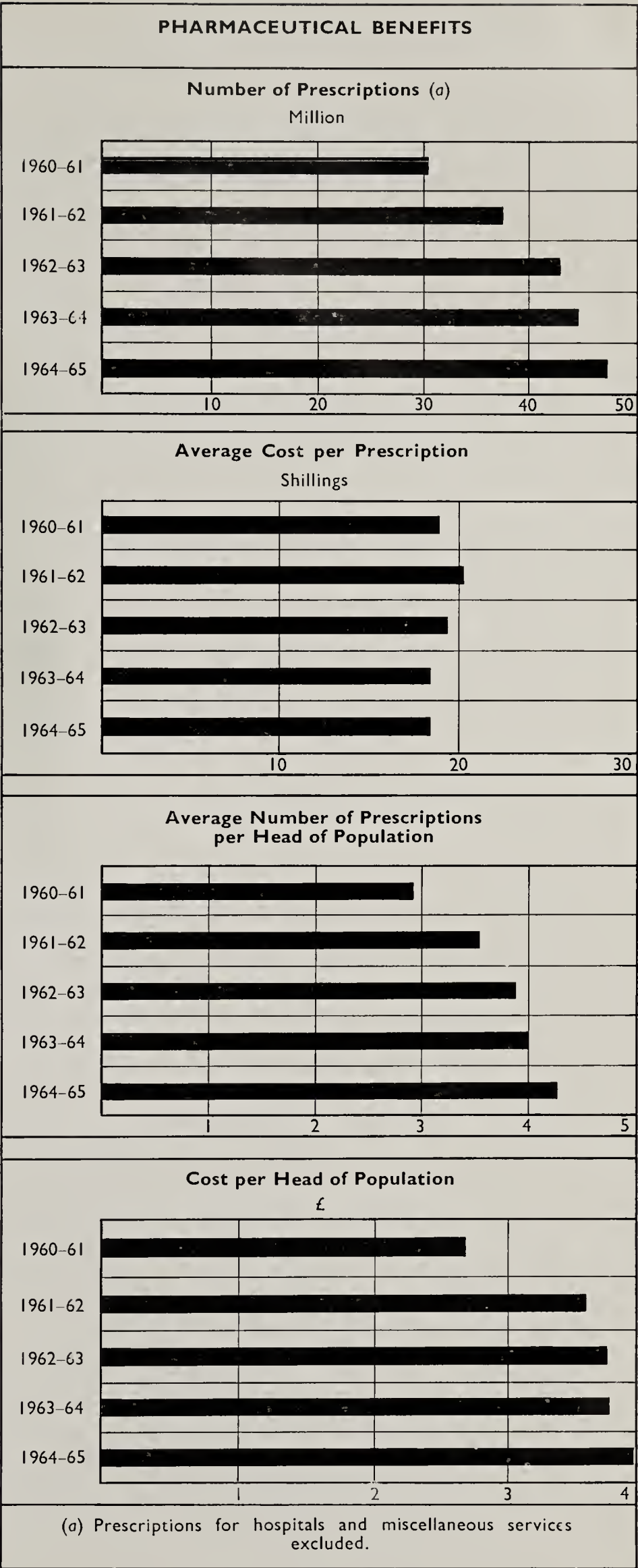
Patient contribution was £8,420,677 as compared with £7,786,902 recorded in 1963-64.

Benefit prescriptions totalled 47,555,801 made up of 33,714,429 for general benefits and 13,841,372 for pensioners. This represents an increase of 2,674,805 prescriptions for the general public and 524,099 prescriptions for pensioners and constitutes an overall increase of 3,198,904 as compared with an increase of 2,164,857 recorded in 1963-64.

Itemised expenditure on some of the more frequently prescribed therapeutic groups is set out in the following table. Figures, which are based on claims received during the year, include the patient contributions of 5s. per prescription, but exclude reimbursements to approved hospitals, Bush Nursing Centres, &c.

Therapeutic Category	Expenditure for Period 1.7.64 to 30.6.65
	£'000
Broad Spectrum Antibiotics	7,172
Penicillins	5,099
Analgesics	2,754
Diuretics—non-mercurial	2,656
Hypnotics	3,238
Blood Vessels—drugs acting on	3,377
Anti-Histamines	2,094
Antacids	703
Expectorants and cough suppressants	568
Sulphonamides	1,004

The remaining expenditure was on a wide variety of drugs the usage of which is not so common.



TUBERCULOSIS DIVISION

The year under review has been one of steady, if not rapid, progress in the fight against tuberculosis. There has been a fall in the total notifications of new cases in the Commonwealth. In both New South Wales and the Northern Territory, however, there has been a rise in the number of new cases notified. The rises have resulted from the carrying out of more vigorous case finding by means of efficient community-wide X-ray surveys.

Notifications

The rate at which new cases are notified in a given period has for a long time been used as a useful index of the magnitude of the tuberculosis problem in a community; accordingly it is pleasing to note a fall in this rate of tuberculosis in the Commonwealth. After the figures for 1963 have been adjusted, by excluding the number of reactivated and quiescent cases, previously included but from 1st January, 1964, excluded, to enable a valid comparison to be made with the 1964 figures, the fall in the notification rate has been from 31.8 per 100,000 of the population in 1963, to one of 30.6 for 1964. Such an improvement indicates that the Commonwealth is joining other advanced countries in the successful fight against tuberculosis.

It is, however, well to remember that the use of notification figures as an index of varying trends may be influenced by such factors as vigor of case finding, care given to notification by the medical profession, definition of what constitutes a "case" of tuberculosis, the action taken regarding cases which have "relapsed" and the number of patients who have transferred from other areas.

Care must be taken therefore in comparing the position in various States and countries unless these factors are known and taken into account. As the numbers fall in different communities, the operation of such influences will have a greater proportional effect on the various results recorded.

Further efforts by the Department to produce statistics relating to tuberculosis which

are comparable between States and also internationally are represented by the introduction of uniform methods of recording during 1964. This work has received most valuable assistance from the Directors of Tuberculosis in the different States and from the officers concerned in the Repatriation Department.

The fall in the number of persons receiving tuberculosis allowances from 6,127 in 1952 to 1,573 in 1964 and the dramatic decline in the death rate from 14.8 in 1952 to 3.7 for 1964 (Table 27) constitute further evidence of the advance against tuberculosis in a long fight which must not be regarded yet as finally won.

The present position in Australia is shown in Table 28 on page 81.

Expenditure

Capital expenditure and that on tuberculosis allowances have maintained the downward trend evident during the past year or so. The amount spent on maintenance, however, continues to increase for the reasons mentioned in the 1963-64 report, namely, extension of compulsory surveys in the larger States, provision of increased chest clinic services and the rising costs of hospitals and of administration generally. This expenditure is shown in Table 29 on page 82.

Australian Capital Territory and Northern Territory

During the year a compulsory chest X-ray survey of all persons of 21 years of age and over was carried out in the A.C.T. Although the figures for the 1962 survey were rather high and rapid growth of the population of the area, which included many new citizens from overseas, had occurred, it has been most gratifying to find that the number of cases of tuberculosis found in the A.C.T. in 1965 was very small.

The action of the New South Wales Government in granting permission to employ a number of its professional, technical and clerical officers to assist in the survey, as well as providing the X-ray units required is very much appreciated. All costs of the survey

were reimbursed in accordance with the Commonwealth-State agreement on tuberculosis.

Statistics relating to this survey and the final statistics of the Northern Territory-southern area chest X-ray survey are in Table 31 on page 82.

National Tuberculosis Advisory Council

The Council met on two occasions during the year. At both meetings extensive discussions occurred, having as their aim the examination of factors suggesting the need to modify the chest X-ray surveys in operation in the States.

Questions such as the extent of the tuberculosis problem as it affects a given area and the incidence in the various groups in the community are instances of the various aspects of the question which were considered.

The growing emphasis on chest clinic and domiciliary treatment, the lessened demand for hospital beds and all the implications arising from these changing circumstances received considerable attention.

Further efforts were made to ensure that information necessary to judge the progress of the campaign and any need for adjustments were given much attention at the meetings. All members appreciated the need for supply-

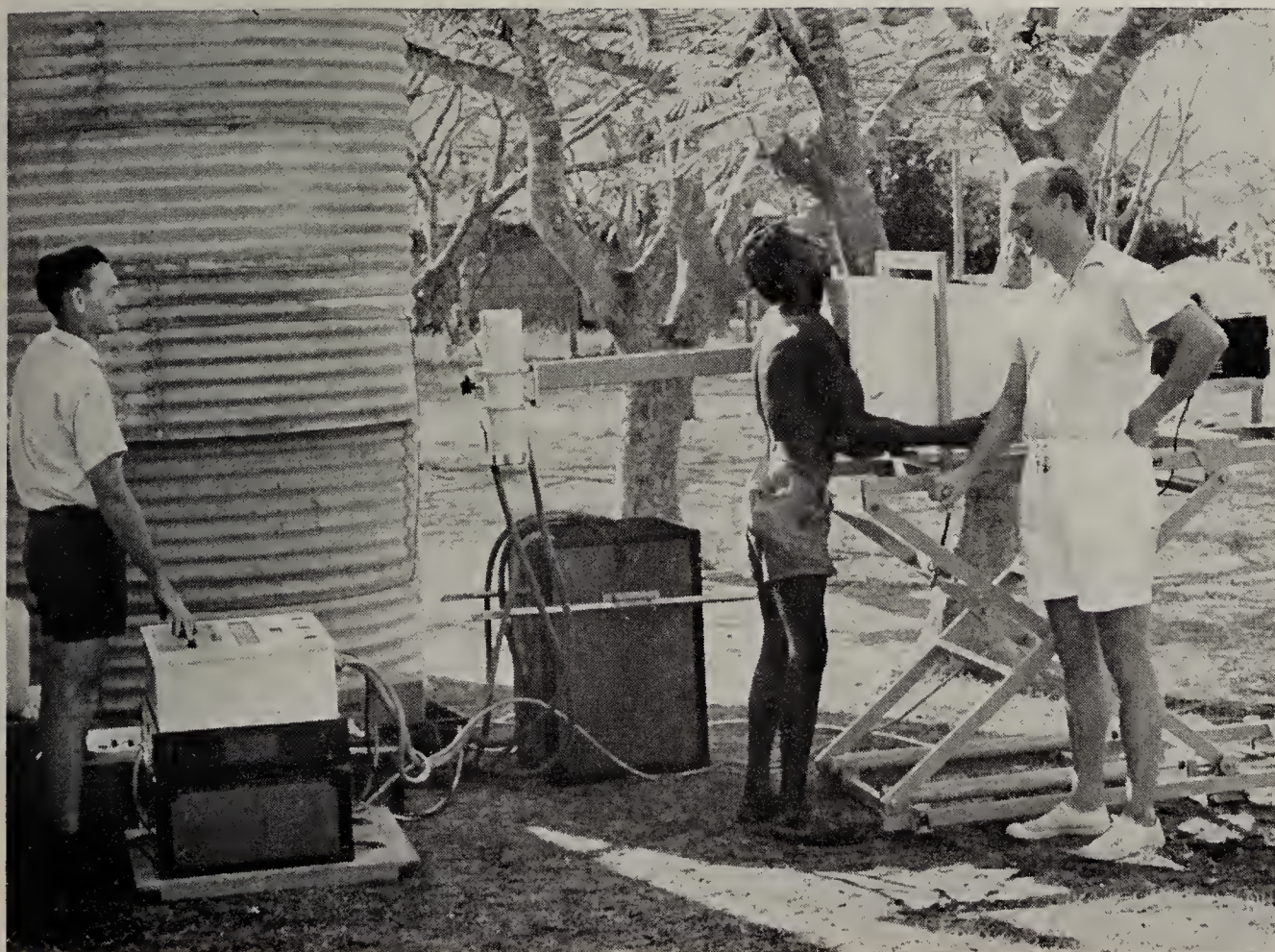
ing statistics and similar information to the Department as the co-ordinating centre of the national campaign.

Meetings of the National Tuberculosis Advisory Council do much to ensure the "national" application of the anti-tuberculosis campaign by enabling the various State Directors and specialists in the subject to exchange ideas and overcome any suggestion of working in isolation.

The Future

In Australia, as in many other countries, the realisation is growing that the means of eliminating tuberculosis as a public health problem have been discovered after long centuries of searching, and yet the disease is still a major concern of community health.

As tuberculosis has long been regarded as as a disease which doctors alone could not overcome, it will continue to be necessary for the community to take a significant part in its elimination, while members of the medical profession must be prepared to act as leaders in the fight with the necessary knowledge of the disease, and of the means of its elimination.



Mobile chest X-ray unit in action in the Northern Territory.

PUBLIC HEALTH

The work of the Public Health Branch has increased greatly over the last year, mainly because of the wider involvement of Australia in international public health measures, the increase in medical advertising and the compilation of the Commonwealth Poisons Register.

National Health and Medical Research Council

The Public Health Branch has representatives on sixteen Committees and Sub-Committees of the National Health and Medical Research Council. In all instances the Branch is responsible for the preparation of agendas and reports and, in most, a member of the Branch acts as Chairman.

With the expanding work of the Council and diversity of subjects encountered, the necessary research and volume of work have greatly increased. To obtain maximum efficiency representation on these Committees and Sub-Committees has been undertaken by a greater number of officers from this Branch, thus enabling a more specialised approach to be made to the problems involved.

Epidemiology

Poliomyelitis in Australia in 1964-65 has been reduced to an all time low of three cases, indicating the effectiveness of the organised Salk vaccination campaign. The success of the pilot Sabin vaccination campaign in Tasmania has indicated that there is also another effective method of preventing this disease.

The Tasmanian Government now proposes to embark on a full scale Sabin vaccination campaign and, as with the pilot campaign and the Salk campaign, the Commonwealth will provide the vaccine free of cost.

In view of the success of both types of vaccine, provided there is a continuing vigilance and awareness of the effectiveness of immunisation, it is hoped that poliomyelitis will become a rare disease within Australia. However, there must be no room for any complacency.

An outbreak of influenza involving most countries in the Northern Hemisphere early

in 1965 and an epidemic of type B influenza in New Guinea during February and March have given reason for some concern here in Australia. However, no epidemic of influenza on the mainland of Australia was reported up to 30th June, 1965. The National Health and Medical Research Council has recommended vaccination with polyvalent influenza vaccine, particularly for pregnant women, persons over 60 and those with chronic debilitating diseases. The Commonwealth Serum Laboratories have been able to meet demands for polyvalent influenza vaccine and, up to the date of this report, no shortage of vaccine has occurred.

Infectious hepatitis is a disease that is still too prevalent, over 7,000 cases occurring during the year, the majority of these in Victoria and New South Wales. The greater use of gamma globulin in prophylaxis and treatment appears to be achieving worthwhile results, but cannot replace personal hygiene as the greatest safeguard.

The National Health and Medical Research Council at its 59th Session considered in detail the uniform notification of infectious diseases and has recommended that all States and Territories should adopt a form of notification that contains certain basic information. In addition, the Council also recommended basic lists of diseases that should be notifiable in all States and Territories. This would not preclude any State adding to the list of notifiable diseases in its own State, but the Council was unanimous that no disease should be notifiable unless such notification were to lead to some follow-up public health action.

Details of diseases notified in the States of Australia for the year ended 30th June, 1965, are given in Table 32 on page 83 and statistics relating to poliomyelitis and infectious hepatitis in Tables 33 to 36 on pages 84 and 85.

National Poisons Register

In order to prepare the National Poisons Register, it is first necessary to obtain details of the very many preparations available in Australia. Much information has been

obtained, particularly regarding pesticides, and the co-operation of manufacturers has been very good. Manufacturers have been assured that no confidential information will appear unnecessarily in the National Poisons Register and therefore only the toxic ingredients of products are listed. Other ingredients are shown in general terms.

Printing of the National Poisons Register cards has started and the initial instalment will be available for distribution before the end of the year. Subsequent batches of cards will be distributed as soon as they are available.

The collection of data and the preparation of cards is a continuing process. To assist in collecting information, both statistical and clinical, a system of poison case reporting by hospitals was recommended at the 59th Session of the National Health and Medical Research Council. Discussions have been held with the authorities in each State regarding the National Poisons Register and it is proposed that each State set up, maintain and control at least one Poisons Information Centre where such a service does not already exist.

Copies of the National Poisons Register will be sent to each State authority for distribution. In view, however, of the anticipated size and space requirements of the Register when completed, it also is planned to produce a condensed manual known as the National Poisons Register Manual.

Joint FAO/WHO Programme on Food Standards

The Codex Alimentarius Commission, initiated in 1963, has now a number of Expert Committees that are engaged in setting up international food standards. A medical officer of the Department attended the Codex Alimentarius 2nd Session in October, 1964, and a member of the Public Health Branch attended meetings of the Committee on Food Additives at The Hague in May, 1965, and the Working Party on Pesticides in Rome also in May, 1965.

The work of this Commission will expand greatly over the next few years and Australian participation in the deliberations of the Committees will increase. Full Australian representation at future Commission meetings is most important because of our large export trade in foodstuffs. Acceptance of food standards prepared by the Commission by importing countries could, if tolerances for addition differed from Australian standards, result in

the wholesale rejection of many of our exports.

Broadcasting and Television Censorship

The Director-General's approval is required for the broadcasting of talks on medical subjects and advertisements relating to medicines on radio and television. In the past year the number of scripts submitted has increased, but generally the co-operation of the advertising and manufacturing industries has improved. This has been achieved by the wider acceptance of the "Guide For Manufacturers and Advertisers", provided by the National Health and Medical Research Council, and a voluntary proprietary medicine advertising code compiled by the Australian Association of Advertising Agencies.

As a result there has been increased approval of original scripts with fewer amendments and rejections.

NURSING SECTION

This year marks the end of the first ten years of the Department's responsibility in connection with the placement of nurses under the Colombo Plan Technical Co-operation Scheme. Nurses have been placed under several Government sponsored schemes, but the largest number of basic and post-graduate nurses have received their training under the sponsorship of the Colombo Plan. For the countries which now form the Federation of Malaysia 212 nurses have received training under the Colombo Plan, the remaining members coming from Burma (35), Ceylon (34), India (76), Indonesia (8), Pakistan (10), Philippines (40), South Korea (3), South Vietnam (2), and Thailand (34)—totalling 454 in all.

As in previous years the Nursing Colleges and hospital authorities have played a vital role in providing the technical training required and assisting the nurses to adjust to patterns of nursing. For some students there are often marked differences between the pattern of nursing in Australia and that of their own country. In order to assist them to adjust quickly to Australian health services and the pattern of nursing prior to embarking on formal courses, planned orientation courses have been arranged by the Colleges.

Graduates

While many of the nurses who were awarded fellowships for 1964-65 followed formal courses, some were nominated for organized hospital courses in midwifery, tuberculosis, ear and eye, infant health and radiotherapeutic

nursing. For others ad hoc programmes were requested and arranged in a particular nursing speciality. Without the inestimable goodwill and co-operation of State Health Departments and hospital authorities these training programmes could not be arranged.

Undergraduates

During 1964-65, 49 Colombo Plan scholars from Malaysia completed basic nursing courses. Sixteen commenced basic courses under the Malaysian Government Assistance Plan and two from Thailand under the Colombo Plan. These students have been placed at the Royal Melbourne Hospital, the Austin Hospital, Melbourne, the Repatriation General Hospital, Melbourne, and Cooma District Hospital.

Nominating Countries

The countries nominating nurses under the various Government sponsored schemes during the past year are Burma, India, Malaysia, Nigeria, Pakistan, Philippines, South Korea, South Vietnam, Swaziland, Taiwan, Tanzania and Thailand.

The table below sets out the number of undergraduate and graduate nurses who have commenced study programmes since 1955.

Graduate Nurses—

- Colombo Plan 289.
- Special Commonwealth African Assistance Plan 27.
- World Health Organization Fellowships, 28.
- International Assistance Scheme 1.

- Undergraduate Nurses—
- Colombo Plan 165.
- Malaysian Assistance Scheme 26.
- International Assistance Scheme 1.

IMMIGRATION MEDICAL SERVICE

During the period under review the number of migrants using the Bonegilla Migrant Centre continued its downward trend, resulting in the services of a private medical practitioner being obtained to attend regularly on a sessional basis to treat outpatients and also to attend to any emergency calls to the Centre, in lieu of the full time medical officer previously employed.

At the same time it was decided that the hospital facilities should be modified and accordingly two wards at the Centre hospital were remodelled, resulting in the number of beds and cots installed being reduced from 271 to 48.

Statistics for the 12 month period are—

Migrants accommodated at Bonegilla Centre	2,157
Beds installed at the Centre Hospital	48
Inpatients Treated	128
Outpatient Attendances	2,322
Immunisations Given	157

Staff figures at the end of the current and the previous year are—

	30.6.64	30.6.65
Medical Officers	1	
Nursing Staff	5	4
Orderlies	7	6
Others	5	5

THERAPEUTIC SUBSTANCES

Arrangements made in 1963 with certain overseas countries including the United Kingdom, Canada, United States of America, Switzerland and Denmark for an interchange of drug control information on a reciprocal basis continued during the year. It is hoped that these procedures will eventually be absorbed into the world-wide arrangements which the World Health Organization is developing in this field.

The administrative machinery established to maintain close and constant surveillance over drugs used in Australia has been strengthened and is working smoothly. A great advance has been made with the introduction of a voluntary adverse drug reaction scheme.

Copies of adverse drug reaction forms are now distributed to all members of the medical profession and to dentists registered with the Australian Dental Association. The Australian Medical Association, the various medical colleges, the medical and dental professions generally, the pharmaceutical industry and many public hospitals are now co-operating in the scheme. Other sources, such as reports to medical journals and communications from drug companies, are also used for the recording of adverse reactions.

The scheme, by which the medical profession report adverse drug reactions, was introduced in August, 1964, and in May, 1965, the co-operation of dentists was enlisted. Since its inception approximately 200 reports have been received from the medical profession involving 276 cases of adverse reactions. Of these, 86 are regarded as being of a serious nature.

As a result of reports, one drug has been banned from use and its importation into Australia prohibited, and four warning letters have been published in the Medical Journal of Australia referring to adverse reactions with specific drugs. Five warning letters have been sent out to doctors by drug firms at the suggestion of the Department, amendments to advertising literature have been made in eight instances and on two occasions, after discussions with manufacturers, drugs have been voluntarily withdrawn from the market.

The Australian Drug Evaluation Committee

The Australian Drug Evaluation Committee continued to provide expert advice to the Department on the assessment of reports of adverse drug reactions and the evaluation of new drugs. The Committee, under the chairmanship of Dr. E. F. Thomson, is composed of seven members eminent in the fields of clinical medicine and pharmacology and has met on 12 occasions since its inception in 1963.

The more important actions taken by the Department in association with the Australian Drug Evaluation Committee relate to:—

The withdrawal of amidopyrine and its derivatives, including Dipyrone, and preparations containing these substances from the Australian market and action to prevent the marketing of these substances in the future. The World Health Organization has been advised of the action taken and State health authorities have been requested to prohibit the sale of products with a content of these materials. This action was taken following reports from the United States Food and Drug Administration concerning 40 cases of blood dyscrasias associated with Dipyrone since 1959.

Two warnings have been issued to the medical profession through letters to the Medical Journal of Australia concerning the association of long acting sulphonamides with Stevens-Johnson syndrome. Additionally, drug firms have been asked to amend their literature to include specific warnings on the toxic effects of long acting suphonomides, especially in children, and to stress the need for strict control of dosage.

Letters advising the action taken in this regard have been forwarded to State health authorities, health authorities in the United Kingdom, Canada, United States of America, Switzerland and Denmark and the World Health Organization.

QUARANTINE

HUMAN QUARANTINE

No case of quarantinable disease entered Australia during the period under review.

The increasing numbers of travellers arriving in Australia by ship and aircraft have created problems in the implementation of quarantine measures. However, officers of the Department confer regularly with representatives of shipping companies and airlines and with other Departments to ensure that, while movements of travellers are facilitated, quarantine standards are satisfactorily maintained.

In an age of fast international travel, an accurate knowledge of the incidence of infectious disease in other countries is essential. Information is received regularly from the World Health Organization and health departments of many countries. This information is carefully studied and collated and any necessary modifications of quarantine requirement made accordingly.

Smallpox

The threat of smallpox being introduced remains undiminished, as the disease occurs in epidemic proportions in countries in South-East Asia situated on the main sea and air routes to Australia.

Because of its severe and fatal nature, smallpox entails a great deal more than other infectious diseases in the way of contact tracing and surveillance. The detection of one case of smallpox recently in Washington, D.C., illustrates this. The patient had travelled from Accra, Ghana, before falling ill, and over 1,000 persons were determined as contacts of varying degrees, traced, vaccinated and kept under surveillance.

Despite the efforts of the Department in bringing to the attention of airline operators the requirements in regard to smallpox vaccination and endeavours to seek their co-operation, travellers continue to arrive in Australia in an unvaccinated state. During the period 1964-65 it was necessary to vaccinate 2,010 persons on arrival and to detain 19 in quarantine to cover the incubation period of the disease.

Arrangements are being made for a group of quarantine officers to attend a course in the early diagnosis of smallpox at the Infectious Diseases Hospital, Tondiarpet, Madras, early in 1966. These courses have been held in previous years and have been most instructive for the officers concerned.

Australia has agreed to implement additional regulations in regard to vaccination against smallpox, recently introduced by the World Health Organization. These regulations provide for the origin and batch number of the smallpox vaccine to be entered on International Certificates of Vaccination. Only vaccine certified to fulfil the requirements recommended by the World Health Organization may be used from 1st January, 1966. This presents no difficulty to Australia as the calf lymph vaccine produced by the Commonwealth Serum Laboratories meets the requirements as to potency and safety. However, the necessity of the vaccine meeting the W.H.O. recommended requirements should ensure that, in future, vaccination certificates should give a better indication of an individual's immunity to smallpox.

Cholera

Australia's quarantine barriers have continued to prove effective against cholera. Epidemics of cholera have occurred over the past year in India, Pakistan, Vietnam and the Philippines and it is thought that there has possibly been a resurgence of the disease.

The spread of El Tor Cholera within recent years from the Celebes to various countries in South-East Asia has focussed renewed attention on the disease and travellers who arrive in Australia from cholera infected local areas and from India, Pakistan, Burma, Thailand, Vietnam, Malaysia, the Philippines and Indonesia, within the incubation period of the disease, must be adequately vaccinated or detained in quarantine. During the year under review 698 were vaccinated on arrival and two who refused vaccination were detained in quarantine.

Yellow Fever

Yellow fever differs from the two preceding diseases in that a mosquito vector is directly involved in transmission of the disease. This vector, *Aedes Aegypti*, is found in Australia.

As yellow fever endemic zones exist in equatorial regions of Africa and of South America, the introduction of an air route via Mexico City makes it possible for travellers to pass through the yellow fever zone in South America and arrive in Australia within the incubation period of the disease. Travellers who have been in yellow fever endemic zones within six days prior to their arrival in Australia are required to have been vaccinated or they are detained in quarantine. During the 1964-65 period one person was detained in quarantine in accordance with the yellow fever vaccination requirements.

Australia has agreed to implement the additional regulations of the World Health Organization which extends the period of validity of yellow fever vaccination from six years to ten years.

Plague

One of the main factors in the prevention of plague is the regular inspection of ships. This is carried out by officers who also undertake the fumigation of ships and trapping of rats when necessary. Ships coming to Australia are required to have a current deratting certificate.

Rabies

Rabies is primarily a virus disease of animals, but humans may become infected after contact with the saliva of a rabid animal. The disease is virtually always fatal in humans.

Rabies vaccine was used successfully in Australia in November, 1964. A woman passenger on an overseas liner had been bitten by a cat in Colombo. When advice was received in Australia that the cat was incubating rabies at the time, the captain of the liner, which was then sailing between Fremantle and Adelaide, was informed and arrangements were made for the passenger to commence a series of injections of vaccine on arrival in Adelaide. This course of injections was continued over a period of 60 days. The passenger remained well and the disease did not develop.

ANIMAL QUARANTINE

As serious animal diseases, present in other parts of the world, are spreading continually, the task of the Animal Quarantine Service in preventing the entry of diseases into Australia becomes more exacting each year. This, together with the increase in the speed and

volume of travel, in migration and international tourism, results in ever increasing problems confronting the Animal Quarantine Service.

Two amendments to the animal quarantine legislation were made during the year. These were effected by Quarantine Proclamation No. 73A of 22nd April, 1965, and Proclamation 74A of 7th May, 1965.

Proclamation 73A prohibits the importation into Australia of the cooked meat and cooked edible parts of pigs contained in hermetically sealed cans or tins except from the United Kingdom, Canada, Ireland, New Zealand and the United States of America. Imports from these countries must also be accompanied by the required health certificates.

Proclamation 74A came into force as a result of the detection of trichinosis in a man and a pig in New Zealand. This proclamation prohibits the importation of pigs and of uncanned pigmeats from New Zealand.

There is now, therefore, a complete ban on the importation of pigs into Australia.

Imports Subject to Quarantine

The number of animals subject to quarantine imported this year decreased when compared with the previous year. Comparable statistics for 1963-64 and 1964-65 are given in Table 39 on page 86.

In recent years, however, with the continuation of the total prohibition on the importation of many species of animals, the emphasis in animal quarantine work has been on the problems associated with products of animal origin which represent a risk of introducing exotic animal diseases.

The implementation of Item 28A of the Third Schedule to the Customs (Prohibited Imports) Regulations continued to give quarantine control of imported therapeutic substances, such as sera, glandular extracts derived from animals, and vaccines. All applications for permission to import biological products were carefully considered to ensure that there would be no risk of introducing diseases of animals, including exotic virus diseases.

Exports Subject to Quarantine

Negotiations continued with countries importing from Australia to ascertain their current requirements, and, where appropriate, modifications to these requirements were recommended in the light of Australia's comparative freedom from serious animal diseases.

Officers of the Animal Quarantine Service continued to issue health certificates and appropriate certificates of testing for disease or vac-

cination against disease as specified by importing countries.

Meetings

The Director of Veterinary Hygiene attended two meetings of the Standing Committee on Agriculture, held in July, 1964 and February, 1965, and two meetings of the Cattle Tick Control Commission, of which he is chairman, in February and April, 1965. Accompanied by the Assistant Director, he attended meetings of the Veterinary Public Health Committee, the Australian-New Zealand Technical Committee on Animal and Plant Quarantine, and the Exotic Diseases Committee.

Overseas Visits

In September-October, 1964, the Director of Veterinary Hygiene visited the United States of America, Europe and Indonesia. In America he conferred with United States Department of Agriculture officials on exotic diseases and visited the Animal Diseases Laboratory at Plum Island, New York. In Europe he attended a meeting, conducted jointly by the Food and Agriculture Organization, the Office International des Epizooties and the World Health Organization, on basic principles for the control of international traffic of animals and animal products held at Berne, Switzerland, in October, 1964. Before returning to Australia he visited Indonesia to confer with the governmental authorities on problems of animal health and quarantine with particular reference to West Irian.

In November, 1964, the Director of Veterinary Hygiene attended the Office International des Epizooties—Food and Agriculture Organization Asian Regional Epizooties Conference, New Delhi, India. Here he acted as discussion leader on contagious pleuro-pneumonia.

The Assistant Director of Veterinary Hygiene also visited America in May-June, 1965 to attend the United States Department of Agriculture Foreign Animal Diseases Course at Ames, Iowa and at Grosse Ile, Quebec, Canada. He visited the Animal Diseases Laboratory at Plum Island, and conferred with the United States Department of Agriculture officers there and at Washington. In Canada the Assistant Director of Veterinary Hygiene had discussions with the Veterinary Director-General of the Canadian Department of Agriculture, Ottawa.

In May, 1965, the Commonwealth Veterinary Officer, Australia House, London attended the annual meeting in Paris of the Office International des Epizooties, as the Australian delegate.

Training of Veterinarians—Exotic Animal Diseases

In order to give Australian veterinarians first hand experience of exotic diseases, two veterinarians, one from the Tasmanian Department of Agriculture and one from the Western Australian Department of Agriculture, both of whom are Commonwealth Quarantine Officers (Animals), attended the Canadian Department of Agriculture's annual exotic diseases course at the Grosse Ile Experiment Station, Quebec, Canada in June, 1965.

PLANT QUARANTINE

Activities, aimed at preventing the importation of plant pests and diseases from overseas, were maintained during 1964-65.

A severe drought in Eastern Australia during 1965 presented plant quarantine with certain particular problems. An Inter-Departmental Committee on potatoes, with representatives from Departments of Primary Industry, Trade, Customs and Excise, and Health decided to recommend the importation of potatoes from New Zealand for processing and this Department has the responsibility of prescribing quarantine conditions and arranging appropriate quarantine control and supervision.

Prospective importers have enquired about bulk importations of maize and peanuts, because of the short supply of local production resulting from the effects of the drought. Both of these products, when imported, will need to be processed under quarantine supervision.

Statutory Rule 117 of 1964 amended several sections of the Quarantine (Plants) Regulations. Most of the amendments were of an administrative nature. However, one important amendment was the addition of wheat grass (*Agropyron species*) and sunflower (*Helianthus annuus*) to the list of seeds which are prohibited importation except by special permit. A consolidation of the Quarantine (Plants) Regulations was completed and the consolidated regulations printed during the year.

Plant Protection Committee

The fifth meeting of the Plant Protection Committee for South-East Asia and Pacific Region, was held in Canberra from 26th November to 2nd December, 1964. This meeting, the first ever held in Australia, was attended by representatives of eight participating governments as well as observers from four countries and from the South Pacific Commission. Dr. T. H. Harrison, Assistant Director-General, Plant Quarantine Branch, was elected Chairman. The Committee, which is sponsored by the Food and



Plant Quarantine Officer obtaining a sample of seed for examination.

Agriculture Organization, functions as an advisory body to the contracting government on matters relevant to the Plant Protection Agreement for South-East Asia and Pacific Region and undertakes to consider problems requiring co-operation on a regional basis. Its principal objective is to prevent the introduction and spread of serious plant diseases and pests within the region.

Australia has made a significant contribution and can claim considerable credit for ensuring, at the inaugural meetings, that the Committee was firmly established. The developing countries within the region have been assisted in their plant quarantine activities through the functioning of this Committee.

Prior to and following the conference at Canberra, delegates and observers were given an opportunity to see plant quarantine at work within Australia. Those who availed themselves of this opportunity expressed sincere appreciation of these visits.

Sirex Wasp

Activities against the sirex wasp continued throughout the year. The National Sirex Fund Committee met six times and its sub-committees on several occasions. The work of containing sirex within its known limits in Victoria has been largely successful and destruction of sirex infested trees continued to prevent an explosive population build up.

Much has been achieved on the research side. The major achievements in this field have been the identification of the fungus carried by sirex, and the introduction and establishment of five parasites of sirex. Promising insecticides have been tested and the relationship between moisture content and attack by sirex has been studied.

At a meeting of State and Commonwealth Ministers in April, 1965 it was decided to recommend to all governments that the campaign be continued in 1965-66, and there are now indications from all States and the Commonwealth that this will be done.

Timber

The importation of logs, sawn timber, timber crates and cases continues at a high rate and therefore inspection and supervision of treatment continued to make heavy demands on plant quarantine staff. Some build up of logs from Malaysia has occurred in some ports and infested logs have had to be sprayed regularly pending use.

Live infestations of sirex, hylotrupes and beetles of the families Bostrychidae, Cerambycidae, Lyctidae, Platypodidae and Scolytidae have been intercepted by vigilant inspectors. To ensure that treatment facilities are readily available when infested timber is found, importation has been largely restricted to capital city ports, but a careful assessment of the Queensland outport position led to a decision to permit timber to come into Townsville direct from overseas.

The European house borer was found in buildings at Cooma, imported from Europe by the Snowy Mountains Authority, and 124 buildings were fumigated with methyl bromide.

Overseas Visit

As cotton growers in the north-west of New South Wales have continued to press for the importation of cotton seed in bulk from the United States of America, a senior officer from the Department were sent to the United States of America to investigate the possibility of importing disease free cotton seed from that country. Some three weeks were spent investigating this matter and a recommendation was made that there should be no departure from the current policy of permitting only a maximum of 5 lb. of seed to be imported for sowing under strict quarantine control. It was apparent that fusarium wilt, a serious seed borne disease, was spreading throughout the American cotton belt, presumably through the medium of the seed. There is no adequate treatment for seed suspected to be carrying fusarium wilt.

The opportunity was taken to obtain some most valuable information on the operation of plant quarantine services in the United States of America, particularly on the Federal level.

General

A specially designed quarantine screenhouse was erected in the Yarralumla Nursery at Can-

berra for the handling of imported plant material under insectproof conditions. The design aims to produce a cool house for summer use and one in which plants requiring a dormancy period can be placed during winter. Arrangements were also made for a small laboratory to be erected at the Yarralumla Nursery where it is proposed to carry out research work related to plant quarantine not undertaken by any other research group in Australia. Associated with the laboratory will be some standard facilities for plant quarantine treatments.

The policy of regulating the importation of plants, including bulbs, rose budding eyes, orchids, shrubs and trees continued. The co-operation of virologists in the State Departments of Agriculture and the Waite Agricultural Research Institute in screening imported commercial fruit varieties for virus, while in post entry quarantine, continued.

The importation of a number of parasites, for use by C.S.I.R.O. or Departments of Agriculture for biological control of certain pests, was approved. These included parasites of potato moth, wax scales, purple scale, lantana, red legged earth mite and carrot aphid.

During the year progress was made in arranging facilities at Sydney and Brisbane for the removal of soil from imported used vehicles. Mobile units have been acquired for use at the various ports in Tasmania where occasional imported used vehicles require cleaning.

During the year, 200,000 copies of a new four-colour folder were printed for wide distribution. The publication has found ready distribution through airlines and shipping companies as well as motorist organizations and travel authorities.

An extensive, new range of display units has been designed for use at the major agricultural shows, the main direct contact with the general public. During the year displays were mounted at Royal Shows in Sydney, Melbourne, Brisbane, Adelaide, Perth and Hobart. A display was also mounted at shows in Launceston and Canberra.

A new poster was designed for use in State and Commonwealth transport systems and a 24-sheet variant was produced for roadside hoardings and special displays.

AUSTRALIAN CAPITAL TERRITORY HEALTH

The Commonwealth Health Laboratory, Canberra, which has been situated at the Institute of Anatomy since 1952, is scheduled to move into its permanent location within the Canberra Community Hospital in late July, 1965. The number and variety of services provided by the Laboratory have increased with the expanding population of the A.C.T. and surrounding districts, and the improved facilities of the new quarters will favour the maintenance of the standard of service demanded of a central clinical laboratory.

The appointment, early in 1965, of Dr. John Crotty as Specialist Bacteriologist has made possible the expansion of the Microbiology Section in the fields of bacteriology and mycology, and it is planned that this section will shortly be undertaking work in the field of diagnostic virology. The Cytology Section has continued to receive specimens for examination from the A.C.T. and surrounding districts, the Northern Territory and other Commonwealth Health Laboratories. Gynaecological specimens have so far comprised the great majority of work done, but sputum is now receiving considerable attention. The total number of examinations done has doubled in the past year.

There have also been general increases in the number and scope of investigations carried out by the Haematology, Serology, Histopathology and Biochemistry Sections. The Red Cross Blood Transfusion Service, for the technical control of which the Laboratory is responsible, bled 4,862 donors during the year.

The Public Health Section, in addition to its work along an established routine of chemical and bacteriological examinations of water supplies, sewage, dairy products and foodstuffs, carried out intensive studies on possible sources of pollution of Lake Burley Griffin. Work was also commenced on the screening of local and imported milk for penicillin residues, and a sampling programme for the control of the fluoride level of Canberra's water was begun. Work in the medico-legal field was extended by the introduction of

spectrophotometric and thin-layer chromatography methods for the detection and measurement of barbiturates and other drugs in blood, urine and artificial kidney dialysates.

Totals of patients attended and tests performed for the year ended 30th June, 1965, were as follows:

	1964-65
Total patients attended	86,235
Total tests performed	416,080

From 1st July, 1964, the Nuffield Point Scale was introduced for the evaluation of tests performed, and the figures shown above are expressed in terms of point scores as determined by the Scale. It is thus not possible to make direct comparison with test totals of previous years.

Immunization

Triple antigen injections totalling 8,551 were given at regular sessions held throughout the year at Infant Welfare Centres.

Immunization against poliomyelitis was continued. Salk vaccine was administered during the period to 7,983 infants, 1,254 school children and 1,046 adults.

Medical Examination of School and Pre-School Children

The Commonwealth Department of Health is responsible for health aspects of child welfare in the Australian Capital Territory. These include a school medical service carried out by medical officers and nursing sisters. The number of children enrolled in the first term of 1965 was 21,422, 2,210 more than at the same time in the previous year.

Medical examinations were carried out at public and private schools within the Territory (including Jervis Bay and Wreck Bay). The majority of examinations were of children aged six, eight, twelve, fifteen and eighteen years. Another large group of children was referred for special examinations. The number of school children examined was 6,306 while personal interviews with parents numbered 224.

Defects notified during the year were:

Eye	376
Nose and throat	56
Hearing loss	81
Minor hearing loss	268
Miscellaneous	147

Regular visits from the Commonwealth Acoustic Laboratory audiologists continued throughout the year and 111 children were tested.

Medical examinations of children aged four years were carried out in two of the twenty-seven pre-school centres functioning in Canberra. Children examined numbered 103. In most cases, mothers attended these examinations.

Defects found were:

Eye	1
Nose and throat	—
Hearing loss	2
Minor hearing loss	13
Miscellaneous	4

Child Dental Service

Free dental treatment from the Child Dental Service is available to children attending infants' and primary schools in the Australian Capital Territory. The number of children under routine annual treatment was 9,096.

The difficulty of recruiting dental officers has continued to be a problem and a number of positions remained vacant throughout the year.

The effects of fluoridation of Canberra's water supply, which commenced on 9th September, 1964, will be assessed by the Child Dental Service. Detailed plans for this work were finalised in 1964 and a pre-fluoridation survey to ascertain base-line data has been completed. This is the largest fluoridation investigation in Australia.

One new clinic has been put into operation at Hackett Primary School.

As in previous years visits were made to Jervis Bay School, the Wreck Bay Aboriginal Station and Cocos (Keeling) Islands. The visit to Norfolk Island has been discontinued.

Child Guidance Clinic

During the year a child guidance clinic was established to assist children with psychiatric disorders.

The clinic is conducted by Professor Julian Katz, Associate Professor of Child Psychiatry at the Institute of Child Health, University of Sydney, who makes regular visits to Canberra to see children who have been referred to the clinic.

The clinic, situated in the Green Square, Kingston offices of the Department of Health

assists children of both pre-school and school age, referred to the clinic by private doctors, the school medical service, social workers and the A.C.T. Education Clinic.

Tuberculosis

During the year a compulsory chest X-ray survey of all persons aged 21 years and over was conducted in the Australian Capital Territory.

Only two cases of active pulmonary tuberculosis were discovered among the 40,446 people who had chest X-rays as part of the mass survey in March and April, 1965. In addition to the cases of active tuberculosis, 43 people were placed under the supervision of the Chest Clinic for inactive tuberculosis lesions which needed medical review at intervals of one or two years. Other important conditions discovered as a result of the survey were four cases of tumor of the lung. One of these has been proved to be cancer of the lung and three were probable cases. A case of hydatid cyst was also discovered.

Over 100 reports were also sent to private medical practitioners at the request of people who had been X-rayed. These concerned abnormalities such as bronchitis and emphysema, pulmonary fibrosis, pneumonitis and abnormalities of the heart. A further 28 people were advised to seek their doctor's opinion for similar non-tuberculous conditions.

The A.C.T. District Nursing Service

The work and scope of the A.C.T. District Nursing Service increased considerably during the year. Some of the more important factors contributing to the growth of the work were the exceptionally large population growth in Canberra, accompanied by an increasing number of older people, the movement into areas formerly unpopulated, resulting in the development and extension of district nursing services into these areas, and a greater appreciation and understanding that patients derive many advantages from being nursed or convalescing in an environment with which they are familiar. Also, more emphasis is now being placed on the rehabilitative needs of patients.

The widening scope of district nursing work in the A.C.T. has changed the character of the district nurse's work. As well as maintaining very sick patients in their own homes, the nurses are helping patients and families maintain good health. They are striving to promote positive and preventive measures of health as they work, including the social aspects

of nursing. More emphasis is being put on patient care in terms of the whole individual, rather than on the treatment of an isolated physical manifestation of illness or abnormality.

Because of the factors mentioned, it has been necessary to increase the staffing establishment by four nurses, making a total of twelve full time nurses and three part-time nurses under the supervision of a senior sister.

The service is maintained on a seven days a week basis from 7.30 a.m. to 9 p.m., with a sister on call between 9 p.m. and 7.30 a.m. for emergency calls. For the twelve months ending June, 1965, the sisters made a monthly average of 2,826 visits, the monthly average of patients attended was 208 and the average of patients on the books at the end of each month was 116.

Health Inspection

In 1964-65 the inspection staff has increased by two and now comprises, in addition to the Medical Officer of Health, a chief inspector and five health inspectors.

Seven prosecutions for breaches of the Public Health Ordinance were conducted during the year and the following licences were issued under the Public Health Ordinance:

Barber Shops	56
Eating Houses	59
Boarding Houses	48
Ice Cream Vendors	15
Meat Vendors	49
Milk Distributors	60
Milk Vendors	153
Prepared Meat Vendors	181

An amendment of the Public Health (Dairy) Regulations allowed the household distribution of milk to be carried out from 8 p.m. to 7.30 a.m. Due to drought conditions approval was given to introduce milk from Albury.

The number of samples of milk, meat and other foods, water and sewage submitted to the Health Laboratory for analysis were:

	For Bacteriological Examination	For Chemical Examination
Milk	564	447
Cream	101	92
Ice Cream	2	2
Meat	8	26
Other Foods	4	22
Food Containers		3
Water—		
City Supply	1,437	136
Swimming Pools	72	
Picnic Resorts and		
Other Supplies	128	8
Sewage	69	219
Lake Burley Griffin and		
Molonglo River	796	334

During the year spraying with Aqualin to control water weed growth was carried out on

Lake Burley Griffin. Seventy-two samples of lake water were collected for analysis of residual content.

Infectious and Notifiable Diseases

Infectious diseases reported were:

Infantile Diarrhoea	21
Bacillary Dysentery	4
Malaria	2
Meningococcal Infection	3
Salmonella Infection	7
Scarlet Fever	10
Typhoid Fever	1
Tuberculosis	14

Notifiable diseases reported were:

Rheumatic Fever	2
Infective Hepatitis	27
Rubella	55
Ophthalmia	10

In February, 1965, a case of typhoid fever was notified. Investigation and follow up of contacts was carried out, but no further cases occurred.

Quarantine

The inspection staff continued to be responsible for quarantine inspection of parcels arriving under bond at the Canberra Post Office. Three hundred of these parcels were subject to quarantine and from these 113 seizure notices were issued.

Twelve aircraft arriving from overseas were subjected to quarantine inspection at Canberra Airport.

Infant Welfare

The Canberra Mothercraft Society, which is subsidised by the Commonwealth Department of Health, administered the Infant Welfare Service in Canberra. A staff of nine triple certificated sisters employed by the Society maintained 17 main centres and 10 sub-centres and carried out a programme of home visiting. During the year there were 40,263 attendances at the centres, and 4,866 home visits were made by the sisters to mothers and babies.

The Queen Elizabeth II Coronation Home for Mothers and Babies, which is also under the management of the Canberra Mothercraft Society, was opened in 1963. It is staffed by sisters and mothercraft nurses and provides post-natal care for mothers and babies. An honorary medical staff has been appointed. The Home, which is an approved public hospital for hospital benefits purposes, has accommodation for two mothers and nine babies and during 1964-65 52 mothers and 138 babies were admitted resulting in a daily occupied bed average of 6.1.

Miscellaneous

By notice in the Commonwealth Gazette of the 22nd April, 1965, the 27th April, 1965 was fixed as the date for the Veterinary Surgeons Registration Ordinance to come into operation. This Ordinance prohibits veterinary surgeons from practising unless they are registered and provides for cancellation or suspension of registration for breaches of a professional code of conduct. There is provision for appeals in such cases. A Veterinary Surgeons Board has been set up under the provisions of the Ordinance, with the Director of Veterinary Hygiene as chairman and Messrs. E. N. Bolas, A. C. McKay and H. R. Peisley as members.

The registrations granted by the several boards during 1964-65 were:

Medical Practitioners	26
Dental Practitioners	6
Nurses	69
Pharmacists	9
Optometrists	2
Veterinary Surgeons	7

Some 13,600 children attending private and public primary schools were eligible to receive one-third of a pint of milk on each school day. This milk was provided under the States Grants (Milk for School Children) Act, 1950.

A first aid post staffed by a full-time nursing sister is maintained at the Government Printing Office. During the year a total of 2,585 persons were treated at this first aid post.

Veterinary Services

This long dry period from December, 1964 to June, 1965 resulted in lessened blowfly and internal parasite activity, but outbreaks of liver fluke infestation due to stock grazing close to water courses have occurred and these necessitated continual control against this parasite. The low incidence of Black disease in

sheep and its sporadic nature is attributed to the widespread use of vaccine against this condition in the A.C.T. The effect of the drought has also been to lessen diseases such as footrot.

Surveillance was kept over stock moving into the Australian Capital Territory to guard against the introduction of disease, and on one occasion a travelling mob of 4,000 lice infested sheep were quarantined and held pending shearing and dipping before they were permitted to travel further by foot.

Health certificates were issued, following examination, for animals leaving the Australian Capital Territory both for overseas and to other Australian States.

Regular inspections of dairy premises were made to ensure the maintenance of satisfactory standards of hygiene. A total of 1,974 dairy stock were subjected to an intradermal tuberculin test. Negative reactions were given to these tests. Throughout the year 543 heifer calves were vaccinated with *Brucella abortus* Strain 19 vaccine.

Stock sales were attended and examinations made for the presence of notifiable diseases, particularly lice and ked infestation and footrot of sheep.

The overall number of animals slaughtered at the abattoir, which is managed by the Department, decreased over last year's figures. A slight increase occurred in the cattle throughput but the numbers of other stock were reduced, due in part to the prolonged drought and the difficulty experienced in obtaining the quality of stock demanded by the local consumer.

A marked decrease of 36.3 per cent in the pig slaughtering numbers is expected to be resolved with the installation, in the near future, of an automatic pig dehairing device and the consequent increased efficiency in this operation.

NORTHERN TERRITORY HEALTH

This year has again been a busy one. Besides increased activities in rural health, 1964-65 marks the beginning of major hospital expansion in Darwin and the continuation of building programmes in other Territory hospitals.

Specialist investigations into rural health problems have commenced operating and further progress has been made towards the setting up of the proper rural health organization.

There is heavy pressure on all Territory hospitals, but this has been contained somewhat during 1964-65. Two major factors which operated in the Darwin area were the stabilising of private practice, with an increase in the number of doctors in active practice in the city and suburbs, together with a big increase in the use made of the District Nursing Service.

As foreshadowed in last year's report, renewed activity at Rum Jungle is reflected in the increased figures for the hospital at Batchelor.

Darwin Hospital

Work is now well under way on the big expansion of the facilities of this, the major hospital in the Northern Territory.

The new kitchen and dining room for medical and nursing staff is in use and minor work only remains to be done. The new laundry is about one-third completed and the 3-unit fully air-conditioned single doctors' quarters is almost ready for occupancy.

Work has commenced on the new home for nursing staff, and Mitchell Street West has been closed in preparation for the new outpatients' administration complex, which will extend across this street. No announcement has been made at this stage regarding the letting of a contract for this and the new ward block, but tenders have already closed.

Further developments have occurred also in the X-ray Department and new equipment has been purchased ready for installation in the forthcoming financial year.

Alice Springs Hospital

The new theatre and central sterile department were opened in August, 1964, with a marked

improvement in the standard of equipment and facilities available to the surgical team and the hospital generally. The old theatre has been converted for use as a physiotherapy department and its convenient location, adjoining the general outpatients' department has been much appreciated.

The laboratory has moved from its former cramped quarters into the old maternity ward which has provided them with ample room, even allowing for future expansion.

A new boiler house has come into operation and the new wing of the sisters' home, which was completed at the end of the last financial year, has added materially to the comfort of the nursing staff.

Development of the grounds adjoining the main street has lent an attractive aspect to the section surrounding the maternity ward and has gone a long way towards combating the dust nuisance in this area, which was formerly barren ground.

Tennant Creek Hospital

An addition to the sisters' quarters, providing an additional four bedrooms, dining room and toilet facilities, was completed during the year and the extension of evaporative cooling throughout the building has been a most welcome improvement in living conditions for all staff. Tenders have closed for the new laundry and boiler house, and an emergency power plant will be included in this project.

Katherine Hospital

A new fully airconditioned ward block was opened in November, 1964. This block contains, in addition to ward space, a delivery suite, a nursery, an operating theatre and a new outpatients' department. Its completion means that first-class hospital accommodation is now available at the two smaller inland hospitals.

Extensions to the sisters' home were also completed during the year and an additional three bedrooms are available for nursing staff. The township of Katherine is growing rapidly, however, and it is apparent that further development of the hospital will be necessary

in the near future. The presence of the meat works and the major development of the R.A.A.F. airstrip at Tindal have been the main causes for the increase in this area, but there is also a steady development of farming and pastoral pursuits.

Batchelor Hospital

As mentioned earlier, the open cut mine for copper at Rum Jungle has been responsible for the renewed lease of life in the township of Batchelor.

The numbers of people attending daily at the small hospital have increased over the last year and there has been a similar increase in the numbers attending the weekly medical officer's clinic.

East Arm Hospital

Contracts have been let for the installation of a modern airconditioning plant in the administrative block and theatre at the East Arm Leprosy Hospital and for a new house for the lay superintendent.

The increasing amount of restorative surgery being carried out at East Arm makes it imperative that the best possible working conditions be achieved in the theatre and the new plant will add materially to the comfort and efficiency of this hospital.

A site has been found conveniently near to the East Arm Settlement, although not actually within the grounds, for the new house for the lay superintendent. When this is completed it will mean that closer supervision of the settlement can be exercised and much time spent in travelling can be eliminated.

The grading of soil and planting of lawns has added much to the appearance of the settlement and hospital surrounds and it is pleasing to see that many of the patients are starting their own gardens around their quarters.

Infant Health

A new clinic was opened in the Rapid Creek-Nightcliff area in Darwin by the Minister for Health. Fully airconditioned comfortable surroundings will enable the serving of this large and growing community with more convenience. The building also houses a dental clinic.

Overall, there has been little increase in activity this year, and this is to be expected in view of the slackening of the birth rate. In Katherine, however, there has been a big increase in the figures, reflecting the increasing activity and population growth in this fast developing area.



*View of East Arm
Leprosy Hospital.*

District Nursing

There has been a further extension of the District Nursing Service in Darwin, which is now operating on a 7-day week basis. The service is open to Departmental medical officers and private practitioners alike and has been of great assistance in helping to contain the load on the outpatients' department of Darwin Hospital. As the city of Darwin spreads it has become increasingly difficult for persons to travel to the hospital outpatients' department, and the service has been greatly appreciated, especially by the residents of outlying suburbs.

In Alice Springs, the District Nursing Service has not grown to the same extent and staffing difficulties have resulted in some fall off in figures for this financial year.

Communicable Diseases and Tropical Diseases

In last year's report it was mentioned that permanent eradication of hookworm was unlikely until levels of hygiene and sanitation had been considerably improved. Our experience this year has confirmed this, as areas in which the worm load had been significantly reduced have reverted to the former high levels in a comparatively short time. The delay in recruitment of a health inspector for hookworm control has also made activities against this parasite difficult.

A small central laboratory has been set up at the Divisional Office in an attempt to overcome these difficulties, and specimens are sent in from outlying areas for examination. In this way the hookworm service is being maintained.

No further indigenous cases of malaria have been reported and examinations of blood films have proved negative. The parasitologist from the School of Public Health and Tropical Medicine initiated an extensive survey of the population in former endemic areas in June, 1965, examining blood films from all available people to determine whether or not attempts to interrupt transmission and thereby eradicate the disease have been successful. This survey will probably continue throughout the next financial year.

During the year five imported cases of malaria were discovered and this highlights the necessity for continued vigilance, if re-introduction of the disease is to be avoided.

The leprosy control and eradication campaign continues. Contact with isolated groups in the old Arafura area has been maintained and in fact increased, in spite of the difficulty of access. Notifications in 1964-65 were less than in the previous year in spite of increasing

activity, but any trends in this disease become apparent only over a period of years and undue significance should not be given to figures on a year to year basis.

During the year the Senior Registrar, Rural Health, attended a seminar on Leprosy Control in Manila, under the auspices of the World Health Organization. He took the opportunity of visiting various establishments concerned with the care and management of this disease during his stay in the Philippine Islands.

In an attempt to overcome the confusion with regard to trachoma, which has arisen in recent years regarding the relationship between virus isolation, other diagnostic tests and the clinical picture seen in the field, arrangements have been made for a specialist ophthalmologist to devote six months to the study of the condition in Central Australia. An attempt will be made to determine the feasibility of developing diagnostic tests now becoming available for use in the field.

Early in the year the first fully mobile mass chest X-ray unit suitable for use in remote areas was put into service. A Barosetti Independent C.S. X-ray unit powered by two 12 volt batteries is coupled to an Odelca 70 mm. mirror camera, thus making it possible, for the first time, to carry out mass miniature radiography at places where power supply is unsuitable or non-existent. As experience has been gained with the unit, techniques for developing the film in the field have been elaborated and full scale on-the-spot investigations, independent of power supplies and other normal facilities, can now be undertaken.

Road trips as well as aerial flights have been carried out and the unit has been tested to the limit in order to determine its capabilities. Both major and minor settlements in Arnhem Land have been visited and examinations have been conducted along the track from Darwin to Katherine, including the R.A.A.F. establishment at Tindal. Some modifications have been made to the original equipment and investigations into further developments in the field of portable X-ray equipment are continuing.

Five more cases of typhoid fever have been detected during the year involving four separate phage types. So far, attempts to find the source of these infections have been unsuccessful. Over 600 serum samples were collected by Dr. Anderson and Miss McDonald from the Institute of Medical and Veterinary Science, Adelaide, but these were all negative. Sewage swabs from Bagot, Bathurst Island and Maningrida were likewise unproductive of results, and the search is being extended to other areas, in particular the Daly River.

There has been a decrease in the number of cases of infective hepatitis notified during the year, but the condition will continue to remain a problem in view of the scanty hygiene facilities in rural communities.

Aerial Medical Service

The demand on the Aerial Medical Service continues to grow, and present and proposed mining development in areas on the periphery promises to increase the demand to a much greater extent in the future.

It has been necessary to increase the interval between visits in the northern half of the Territory to obtain a full coverage. This has brought the timetable into line with the time interval operating in Central Australia.

Intensive review of the various routes has been carried out and emergency operations have also been thoroughly examined. As a result more patients per emergency flight have been moved this year, thus achieving greater utilisation of the aircraft. It is desired to still further increase the effective control and co-ordination of activities in rural districts where air transport is at a premium, and re-organization proposals are currently being prepared with this end in view.

Co-ordination generally has been assisted by the transfer of many of the stations at the Barkly Tablelands to the base at Alice Springs. Discussions have also been held with the base at Wyndham which handles much of the traffic from the Victoria River district. As a result, co-ordination in this area has also improved and a direct radio link between Wyndham and Darwin is coming into being.

In order to still further increase effective utilisation of planes, an additional pilot has been obtained for the Darwin area. Although this position will be used for approximately six months of the year on relief duties a valuable increase in plane availability will be achieved during the remaining months of the year. This will make it possible to assist the transport of rural health teams, whose activities are increasing, to all areas.

During the year the aircraft at Alice Springs was fitted with a long range tank, thus bringing it up to the standard of the two aircraft in the Darwin area and achieving interchangeability.

	Darwin	Alice Springs
Emergency flights	154	64
Routine flights	109	382
Hours flown	1,196	464
Miles flown	169,034	61,620
Patients carried ..	744	154
Patients carried by charter and com- mercial services	681	293

Health Laboratories

The change in calculation of tests with the introduction of the Nuffield Points system makes it difficult to compare this year directly with last, nevertheless the amount of work has increased and the number of patients seen also has risen.

The sharp rise in salmonella isolation during 1963-64 appears to have subsided and shigella isolations also show a fall. Increasing numbers of atypical strains of mycobacteria are being found and this promises to become a major problem in tuberculosis work in the future.

With the pressure of diagnostic tests for acutely ill patients, public health and routine tests have had to suffer and it has not been possible to complete several investigations into the problems of, for example, treponemal disease.

A factor which has materially improved working conditions in the Darwin laboratory is the completion of full scale airconditioning to the laboratory building.

The significant development in Alice Springs during the year has been the movement of the laboratory from its old and inadequate quarters to the building formerly used as a midwifery ward. This will make it possible to introduce new methods for the investigation of sick children as part of the infant morbidity and mortality investigations being conducted with the assistance of Professor G. M. Maxwell, Professor of Child Health at the University of Adelaide.

Dental Services

The opening of a new fully airconditioned clinic at Rapid Creek in March, together with an appreciable increase in the salary scale for dentists has given a much needed boost to the Dental Service with the result that there is now a better staffing level than at any time in recent years. It has been possible to expand the mobile services, which have been operated on a skeleton basis, and to staff the various clinics.

There are static dental clinics at Nightcliff, Darwin City and at Alice Springs. There is also a static clinic at Tennant Creek which is used by the mobile units when they visit the area. Two mobile units are in operation, both of which are airconditioned. Statistics of dental services provided in 1964-65 are given in Table 41 on page 87.

Rural Health Services

During the year several long range projects in the field of rural health services were commenced.

A Health Education Group was held in Alice Springs in March, 1965, in which staff of the Welfare Branch of Northern Territory Administration and one of the local missions participated, as well as Health Department workers, Dr. Clements, from the Institute of Child Health, and an anthropologist from the Australian School of Pacific Administration.

The community health project at Oenpelli continued and Dr. Clements made a visit to investigate problems in infant nutrition. As a result of this visit, certain changes were made in the feeding of the younger children, particularly in the emphasis placed on personal supervision. Initial results show a satisfactory improvement and follow up assessment carried out in June confirmed that this would be maintained provided that the programme was followed.

Professor Maxwell, Professor of Child Health at the University of Adelaide, paid three visits to Central Australia to assist in investigations into the problems of infant morbidity and mortality in this district. As a result, extensive investigation of a major settlement is planned for early 1965-66. Several cases from this area were transferred from the Alice Springs Hospital to the Children's Hospital, Adelaide, for specialist examination involving the use of facilities which exist nowhere else in the Commonwealth. There are indications that these investigations will provide valuable information which will enable some of the cases, which have previously failed to respond to treatment, to be handled.

Survey sisters and field health inspectors were active throughout the year, although for part of this time the Senior Sister was undertaking post-graduate training in nursing administration in Sydney. The sisters maintained their work in infant health and audiometric testing and continued to play their important part in the leprosy control campaign. They continued their immunization programmes in remote areas and have also been engaged in Mantoux testing in preparation for visits of the mobile chest X-ray unit.

The year has been a particularly busy one for field health inspectors, as the increasing population of full blooded aborigines means increasing pressure on available basic hygiene facilities at missions and settlements.

In collaboration with the Water Resources Branch of the Northern Territory Administra-

tion, a survey of all community water supplies was carried out in rural areas in the Territory and the information thus gained was used as a basis for an interdepartmental committee report on the problem of community water supplies in the Northern Territory.

Hygiene and sanitation remain at a low level through much of the rural areas of the Territory, one of the major problems being the education of the people in the importance and use of these indispensable adjuncts of modern, healthful living.

The establishment of a small hookworm laboratory in the Field Health Inspector's Section and the part played by this staff in providing an advisory service on field hygiene for missions, settlements and pastoral properties, has meant increasing liaison between those charged with the responsibility of communities in remote areas and this Department, with a better approach to our common problems.

Quarantine

Although no great increase in shipping occurred, significant projects have been initiated which may be expected to increase the international traffic through Darwin. These included the approval of a bulk ore loading facility to handle iron ore from the Frances Creek area and the establishment of a manganese mining venture on Groote Eyelandt.

Although there has been a slight decrease in the number of aircraft flights through Darwin, there has been a large increase in the number of persons cleared for quarantine. This was to be expected as part of the modern trend towards larger pure jet aircraft.

Vaccinations for smallpox performed at the Darwin Airport have fallen somewhat in spite of the rise in the number of passengers. There appears to be some increase in immunization against cholera, which probably reflects the increased distribution of this disease throughout the East.

During the year, two people were detained in the Quarantine Station. These were both children who had not had smallpox vaccinations. One coloured seaman with chickenpox was also detained. Laboratory investigations by the virologist at the School of Public Health and Tropical Medicine confirmed that this was not smallpox.

NATIONAL FITNESS MOVEMENT

The continuing stimulus received from the increase in the annual Commonwealth grant to State National Fitness Councils in 1962-63 is reflected in the progress observed in each State Council's activities.

Considerable development has taken place in the provision of increased facilities for camping activities. Several new camps have been established and an extensive programme of development and modernization of existing camps has been carried out in all States.

Sports coaching clinics have been established in many centres and, through youth councils or associated youth committees, all States have pursued vigorous programmes of youth leadership training courses. Other activities of the Councils included assistance in the running of holiday play centres and swimming schools and, in many instances, the youth hostel movement has received clerical and financial assistance from Councils.

State Education Departments

The Commonwealth grant of £17,000 during the year assisted the State Education Departments to provide bursaries for selected teachers and to train general teachers in physical education. The grant was also used in the development of school camps and for publications and films for physical education libraries.

Universities

A total of £12,400 was available during the year for payments to universities from the National Fitness Fund. The Universities of Melbourne, Queensland, Adelaide and Western Australia received £2,100 each, while the Universities of Sydney and Tasmania each received £2,000.

The grant continued to assist the programmes designed to train physical educationalists. Several States are aiming at the development of their university physical education course from diploma to degree standard.

Australian Recreation Leadership Training Course

The Commonwealth Council for National Fitness had been concerned for some time at the

lack of trained leaders in the community in the general field of recreation. As a result of resolutions passed at the 16th session of the Commonwealth Council for National Fitness, held on 16th and 17th July, 1964, the National Fitness Council of New South Wales was asked to outline proposals for a training course to be established in 1965. Details of the proposed course were announced in August, 1964.

The first session of the course was conducted at the Narrabeen National Fitness Centre in New South Wales between 15th March and 10th April, 1965, and four additional courses have been planned for 1965.

Officers from the New South Wales State Departments of Health, Prisons and Child Welfare, as well as a number of interstate students, were enrolled in the first session of the course. It has been agreed that the course should continue while there is a need for the type of training offered.

Booklet on Fitness

Following discussion at the 16th session of the Commonwealth Council for National Fitness concerning the need for a booklet on the general subject of fitness, it was resolved that the National Fitness Council of New South Wales should prepare a draft section on exercise and that the Institute of Anatomy should prepare a draft section on diet for inclusion in the proposed booklet.

The proposed exercise section of the booklet has been tested on various groups in order to determine the suitability of the exercises for various age groups and levels of motor ability. It is proposed that the booklet should have a wide distribution throughout Australia and it is expected that the publication will be a major contribution towards developing increased fitness in the community.

Duke of Edinburgh's Awards

National Fitness Councils in each State have been closely associated with the Duke of Edinburgh Award Scheme in Australia. The Scheme has become firmly established as a



His Royal Highness, the Duke of Edinburgh, with Gold Award winners at Government House, Sydney.

means of presenting a personal challenge to young people to participate in activities which assist in developing a spirit of service in the local community and a proficiency in leisure time activities.

The first gold award winners in Australia were presented with their awards by His Royal Highness the Duke of Edinburgh at a ceremony held at Government House, Sydney, on 25th February, 1965. One young woman from Western Australia and 18 young men from the other States received gold awards at the ceremony.

The Commonwealth Minister for Health approved a grant of £3,799 to enable the completion of the colour film of the Award Scheme in Australia which is expected to be released towards the end of 1965.

Australian Capital Territory

The Australian Capital Territory National Fitness Advisory Committee met during the year to consider applications from youth and sports organizations for grants for assistance with their group programmes. Grants of up to 50 per cent of money expended were made to groups for the purchase of physical recreation equipment and to assist with minor capital works. Direct cash grants to organizations and funds made available for the provision of amenities totalled £1,750.

The Associated Youth Committee of the National Fitness Advisory Committee continued to function as the co-ordinating body for youth organizations within the Australian Capital Territory.

COMMONWEALTH HEALTH LABORATORIES

The volume of work performed at the 15 Commonwealth health laboratories, located at strategic points throughout the Commonwealth, expanded during the year when 2,490,000 tests, expressed in terms of point scores under the Nuffield Points Scale, were performed.

A direct comparison between the number of tests carried out this year and in previous years cannot be made, as from the 1st July, 1964 a new method of recording was introduced. This new system, known as the Nuffield Points Units Scheme for the evaluation of the work load of the laboratories, was introduced to assess more exactly the work load at different levels and as an aid in assessing future staff requirements. Each test is given a unit value according to the time required for performance and the degree of skill involved. The scheme was already in operation in the Repatriation Department laboratories and thus a comparison of the work load and staff requirements at both Repatriation and Health laboratories will be possible.

There are considerable differences in the size of the laboratories and in the number of staff. For example, the laboratory at Alice Springs employs only one medical laboratory technologist and one technical assistant and provides a service equivalent to a hospital side-room laboratory, whereas at Townsville, where the laboratory provides a full pathological service for the State Base Hospital, the total staff employed is over 28.

Over the years, on account of the isolated location of most of the laboratories, it has been difficult to recruit, train and retain the necessary staff. In recent years the volume of work at the laboratories has increased annually and the scope of the service has progressively widened so that all laboratories now provide a clinical pathology service in the fields of haematology, histopathology, serology, biochemistry and bacteriology. In 1964-65 a joint Public Service Board-Departmental Working Party was established to investigate the professional and technical grade requirements in Commonwealth Health labora-

tories. This working party completed a report on the classification and re-organization of the laboratories on 2nd April, 1965 and the report is now being considered by the Public Service Board and the Department.

Lismore Laboratory

During the year a tender was accepted for the extension and modernization of the laboratory at Lismore and it is anticipated that the project will be completed by January, 1966.

The laboratory at Lismore serves an important and expanding area in north-eastern New South Wales and the volume of work, in common with other laboratories, has expanded year by year. The existing building, built in 1924, has an area of only 1,740 square feet. To keep pace with extensions being made at the Lismore Base Hospital, for which the laboratory provides services, and realising that the service given at the laboratory will continue to expand with the growth of population and advances in medical knowledge and techniques, it is planned to provide an additional 4,600 square feet of space. The extra accommodation will provide an acoustic room for the examination of hearing loss by the Commonwealth Acoustic Laboratories, a second medical officer's room, a training area and a dark room for ultraviolet light equipment and microphotography, in addition to replanning an improved layout of the present facilities.

Canberra Laboratory

The laboratory at Canberra is scheduled to move into its new location within the Canberra Community Hospital in July, 1965, where, it is anticipated, the new quarters will be of considerable assistance to the staff in maintaining the high standard of service which is demanded of them as a central clinical laboratory.

Overseas Courses

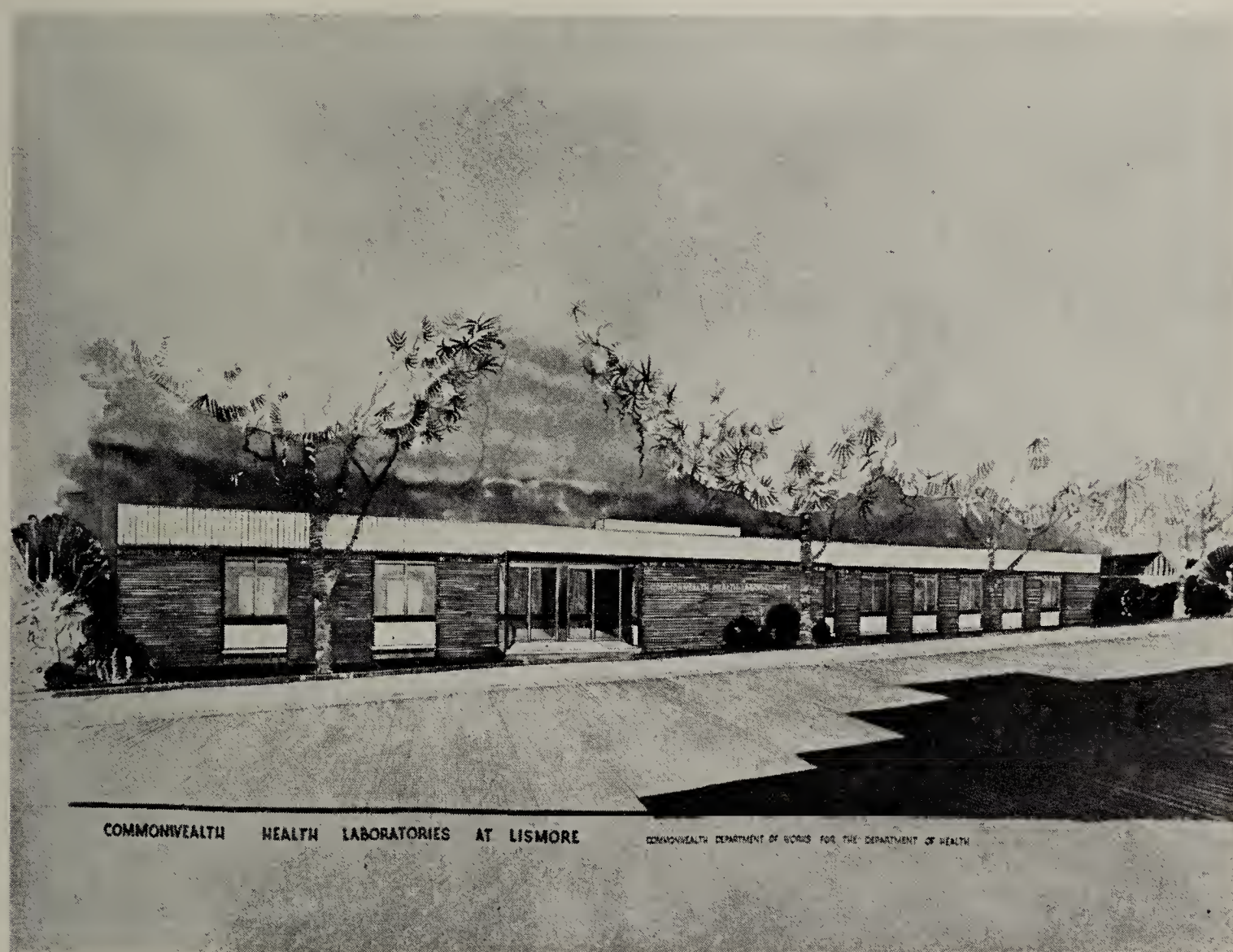
Dr. R. M. Symes, Pathologist-in-Charge of the Tamworth Health Laboratory, proceeded in October, 1964, to London to undertake the course for the Diploma of Clinical Pathology

at the Post Graduate Medical School. Dr. D. D. E. Evans of the Launceston Health Laboratory will undertake this course in 1965-66. Both officers were granted W.H.O. Fellowships to undertake their respective

diploma courses.

Detailed statistics of the number of tests performed and the number of patients who attended the laboratories are given in Table 44 on page 88.

An architect's impression of how the Lismore Health Laboratory will appear when extensions and remodelling are completed.



SCHOOL OF PUBLIC HEALTH AND TROPICAL MEDICINE

Postgraduate courses of full-time study for medical graduates for the Diploma in Public Health and the Diploma in Tropical Medicine and Hygiene were continued in 1964-65. Single subjects for the various University diploma courses in clinical pathology, social work and public health, dentistry, and a course of three weeks in occupational health for medical practitioners were also given.

Undergraduate Teaching

For undergraduate students in fifth year medicine the school conducted a course of 50 lectures and practical instruction in preventive and social medicine, while, for fourth year students, lectures and demonstrations were given in parasitology and malaria. Courses in protozoology, hygiene, and industrial hygiene and safety were given to science, architecture and engineering students respectively.

Teaching courses were provided for the University of New South Wales and the Australian School of Pacific Administration. A one-week extramural course in prevention of industrial hazards for technical and managerial staffs, and a non-professional course in tropical medicine and hygiene for missionaries, nurses and other tropical residents, were also given as an annual feature. Short courses in ergonomics for staffs of Commonwealth industrial institutions, instruction to personnel of the armed forces, and training for personnel of Commonwealth Health Laboratories and other services were also conducted. The usual teaching assistance to the N.S.W. College of Nursing, with courses in preventive medicine and bacteriology, for the tutor sister, midwife teacher's and psychiatric tutor diplomas, was also provided.

RESEARCH AND INVESTIGATION

Bacteriology

An investigation of *Tinea imbricata* infections of the skin in native inhabitants of New Guinea, referred to in the 1963-64 Report, has been completed. Dermatophytic infections are of considerable importance in the Territories

and identification of their major causes is a necessary step to rational therapy.

A report on a serological and epidemiological survey of humans and animals in Papua and New Guinea, for evidence of leptospiral infection, has been submitted for publication.

A survey of employees in New South Wales abattoirs for serological evidence of leptospiral infection, which was conducted in association with the New South Wales Institute of Clinical Pathology and Medical Research as part of the combined investigation of the incidence of leptospirosis, Q fever and brucellosis, was completed. Of 635 sera examined, 15 per cent were positive, which is considered as diagnostic. This agrees with the results of a previous survey of a similar population, in which 18 per cent reactors were found.

A serological survey of sheep for the presence of antibodies to *Coxiella burnetii* has been completed. Eighteen per cent of some 2,000 sera examined were found to have antibodies to *C. burnetii* at a level of 1/10 or higher.

Biochemistry

Serum protein studies of natives of Papua and New Guinea, undertaken in conjunction with Dr. F. Schofield of the Department of Public Health for the Territory of Papua and New Guinea, as part of a survey associated with the malaria eradication programme of the Department, were extended for a further year.

An investigation of cholinesterase levels in normal persons and in persons exposed to organo-phosphorus compounds, undertaken to establish information of value in occupational health work, is in progress. Estimations have been completed for the normal series, but further data have yet to be obtained for persons under exposure.

The work into urinary catecholamine excretion in cold-stressed subjects, which has advanced to a stage where specimens collected from personnel in Antarctica will undergo analysis, is being carried out in co-operation with the Environmental Health Section and Dr. Warhaft of the Antarctic Division.

Work on the micro-estimation of serum copper, performed as an introduction to a study of copper metabolism, continues. The object is to establish the nature of disturbances in copper metabolism occurring in leprosy and other conditions and to determine if any such disturbance occurs early in the diseases.

Entomology

A limited observation of the rabbit population of the Mt. Flora area was continued in the spring, summer and late autumn seasons. The importance of myxomatosis studies in this area, rather than elsewhere, lies in the information gained about mosquito behaviour and the influence of particular micro-environments. The over-all mosquito population, if considered in the usual context of human disease, would be regarded as insignificant. Nevertheless, this disease, transmitted by mosquitoes, is capable of maintaining itself over a period of 15 years even under the adverse conditions imposed by a relative scarcity of vectors.

The provision of an up-to-date compendium of systematic and biological knowledge of Australian mosquitoes is of current importance. The production of a check list of Australian mosquitoes, in association with Dr. E. N. Marks of the University of Queensland, is progressing.

Taxonomic and biological work connected with biting midges (sandfly) investigations was continued. Taxonomic study has commenced on all accumulated material of the genera *Monohalea* and *Stilobezzia*, together with a revision of the genus *Leptoconops*. A revision of the *Palpomyia* group of genera is nearing completion.

In the biological field, techniques for the recovery of biting midge larvae from sand and mud samples were refined and field studies undertaken in selected areas of the Broken Bay estuary.

The investigations of important public health problems associated with populations of house-flies and blow-flies were continued. The project was based on the assumption that basic biological information on the pertinent fly species, obtainable only by intensive investigation, could advance current measures for the control of these pests.

The sorting and counting of the 12-month survey catches of flies in eight selected habitats in the Sydney area, using baited traps, were completed. The total catch for the period was in excess of one million and the analysis of the complex data has commenced. During

the past summer the second phase of this investigation, the breeding of flies from various suitable media, found naturally occurring in the field, was commenced.

The true significance of garbage disposal areas has not yet emerged from this survey. Certainly by far the greatest catches were recorded from such areas, but these were not entirely of species of domestic importance. One garbage area in one month contributed 43 per cent of the total catch for the year, despite the fact that by current standards it is a well-managed tip.

In another instance the closure of a tip at the height of the fly season was followed by a dramatic reduction in total flies caught at a trapping site almost one quarter of a mile distant. Certain species disappeared altogether and these probably comprise the ones which are most dependent on garbage as a breeding medium.

Environmental Health

The work undertaken, in conjunction with Dr. F. Ofner at the Lidcombe State Hospital and Home, on the effects of climate on the aged and chronically ill has been continued. One paper has been published.

Digital computer programmes have been devised for general biological application and these have now been applied to the analysis of physiological information acquired in this study. The particular value of the results lies in the fact that a group of men have been examined twice daily over a period of 15 months. Changes of unexpected magnitude in the cardiovascular and the temperature-regulating systems have been observed in relation to time of day, season of the year and the prevailing temperature.

Much work has been done on the physiological effects of exposure to extreme heat and cold, and usually the subjects investigated are wearing unusual types of clothing. However, little work has been done on the physiological effects of what are usually termed acceptable climates on subjects conventionally dressed. The opportunity provided by an investigation on the buffering action of hygroscopic clothing was therefore taken to investigate this subject. Young men, dressed in conventional "office" attire, undertook activities representing both the minimum and the maximum energy expenditure likely to be undertaken by men wearing this form of dress, at two temperatures, which represented respectively a cold winter's day and a warm summer's day in Sydney, at several levels of humidity and at an air movement

that could be expected to be common to both indoor and outdoor environments.

The measurement of human thermal radiation exchange by means of the device developed by the late Dr. Funk is proceeding. The Funk Scanning Radiometer, which is on loan from the C.S.I.R.O. Division of Meteorological Physics has been installed in the climatic chamber and developmental work on accessory instrumentation has been undertaken. This work is being done in conjunction with other work on the temperature changes in wool fabrics associated with changes in environmental humidity.

Six men were studied before and after six weeks of strenuous outdoor work and cold exposure on Heard Island. Physical fitness increased significantly, while subcutaneous fat and arterial blood pressure decreased significantly. Response to a two-hour period of whole-body cooling suggested that a small degree of insulative acclimatization had developed. Discomfort from cold did not change. Frostbite of one subject's hands, which grossly impaired touch sensation and caused marked intolerance to cold, produced no obvious changes in the response to cold of finger temperature.

Eighteen men were studied for 12 months in Antarctica. Significant increases occurred in blood-clotting time, serum cholesterol and prothrombin index. These changes did not seem to be related to cold exposure, dietary fat or psychological stress. Further investigations in Antarctica are being made.

A study of thermal comfort made on nine men for 14 months in Antarctica has been reported on. Indoors the men achieved thermal comfort at all times by adjustment of their clothing. Outdoors less clothing was worn as the year progressed, yet comfort was maintained. The results provide good evidence of acclimatization to cold.

Occupational Health

A survey of the health and working conditions of telegraphists, involving comprehensive clinical and environmental studies, which commenced in 1963, was continued. In 1963-64 an examination of sickness and absentee records, studies of working environment and a comprehensive medical interview and examination were then completed for 417 telegraphists in New South Wales and Victoria. In the year under review the same procedure was conducted for a further 137 telegraph officers in Brisbane and further environmental investigations made in Melbourne.

The purpose of the continuing survey being undertaken into the health of rotary machinists in the printing industry is to determine the amount of ink and paper dust in the air of rotary printing departments and whether this is injurious to the health of operatives. During the year 84 persons of an unexposed control group were examined. To date a total of 149 machinists, 150 controls and 11 intermittently exposed electricians have been examined. The data are being assembled for analysis to determine whether significant differences exist between the groups which could be attributed to their differing occupational conditions.

A survey on dust production during the sand-blasting of ships in a dockyard and its possible effect on health was completed during the year.

Many dust samples were taken in the machinery spaces of a representative number of ships while sand-blasting was in operation. Investigation was directed to evaluation of the dust exposure of persons in machinery spaces and was not concerned with any hazard to the sand-blasting crews. It was reported that sand-blasting could be undertaken in most ships with safety during normal hours, provided the operation did not subject men in machinery spaces to a dust exposure for more than one-third of their working time. It was considered, however, that sand-blasting of certain types of small ships should be performed outside normal working hours on account of high dust concentrations generated.

Parasitology

An investigation of the epidemiology of filariasis in New Guinea, particularly in relation to hyperendemic foci, was commenced in 1958 by Dr. B. McMillan in association with the Public Health Department of Papua and New Guinea. The ultimate object was to determine if control measures, by mosquito control or drug therapy, were feasible in Papua and New Guinea.

Representative areas of heavy filariasis incidence were selected and surveyed in various parts of New Guinea—New Ireland, New Hanover, Rai Coast, Sepik Area, North Coast of New Guinea (Roinji), Manus Islands, Finschafen District—and drug therapy later initiated. In Manus this was associated with mosquito control by insecticide spraying, performed by the Public Health Department. Check blood film examinations were thereafter made at intervals.

Dr. McMillan visited Sepik villages from 16th February to 9th March, 1965, in association

with Mr. A. Kelly of the Public Health Department. The assessment of results of blood collections and experimental feeding of mosquitoes are in progress.

The project should be completed after final field work in September-October, 1965, and January, 1966.

The investigation of cases of an often severe irritative dermatitis, occurring in rice farmers at Humpty-Doo, Northern Territory, was noted in the last Report. The ailment is due to penetration of the skin by water-living forms of avian schistosomes whose life cycle includes other stages in birds and water snails. In an investigation the causal parasite was identified and two species of water snails recognized as its hosts. Adult worms were also found in water birds.

In July, 1964, Mr. A. J. Bearup demonstrated that *L. lessoni* in fresh water swamps at Magnetic Island, North Queensland, was again intermediate host of "ocellata" type cercariae which produced a reaction identical with those of Humpty-Doo.

Preventive Medicine

The long-term investigation of the efficacy of BCG vaccination in the prevention of leprosy, conducted in the Karamui district of New Guinea in association with the Department of Public Health of Papua and New Guinea, has now entered its fifth year. A paper describing the methodology and results of the initial leprosy survey has been published.

A study of nasopharyngeal neoplasms in Australia reveals that these tumours are approximately 66 times more common among persons of Chinese descent resident in Australia than among people of Caucasian origin.

With the aim of establishing mortality records for the native inhabitants of Papua and New Guinea, which could later be of considerable value in health planning, a mortality survey was established in selected areas of the Territories where voluntary medical assistance is available. Such a scheme was originated by Dr. L. A. Atkinson, of Sydney, for the accumulation of data on the incidence of cancer in New Guinea, and it has been proposed that, when possible, it should be extended to cover a population of between 50,000 and 100,000.

It was found that the majority of cases of whooping cough admitted to metropolitan hospitals had received no immunization, or had failed to complete the full course. An investigation was conducted into the reasons for the failure to protect children against this disease.

It was found that the mothers of inadequately immunised children had a significantly lower educational status than those accepting full protection. Present health education methods had failed to impress them, as most of such mothers either had no knowledge of immunization procedures or else were not aware of their importance.

Radiobiology

Investigations on radiogenic tumours was continued in 1964-65. The incidence of lymphoma was lowered from 62 per cent to 27 per cent by post irradiation bone marrow grafting and there was an inverse relationship between the "take" of chromosomally labelled donor cells of bone marrow and lymph node origin and the incidence of lymphoma.

Cases with suspected chromosome anomalies were referred from Sydney hospitals. Chromosome analyses aided the diagnosis in patients where primary amenorrhoea, intersex states and trisomies were suspected. Genetic counselling was given in cases where hereditary mongolism was likely.

Chromosomes of malignant tissues have been examined in order to note departures from the normal pattern and to follow alterations observed during the course of treatment.

Tropical Medicine

The research project using the depot anti-malarial drug CI-501 (Camolar R) was completed. This drug was used on Patrol Officers at the Australian School of Pacific Administration, half of whom habitually develop vivax malaria during their year of study at that School. The injection of CI-501 delayed the onset of such malaria attacks for a period of three months. Thus the protection afforded against New Guinea strains of vivax malaria is for a much shorter period than obtained with some other geographical strains of malaria.

A study is being commenced on the health of aborigines in a rural area of New South Wales. It is hoped that this will develop into a project where teaching and training can be carried out in addition to research.

Consultative and Advisory Services

The consultative services, provided by the sections of the School in their special subjects, continued to be widely used by various Commonwealth and State Departments, institutions and public authorities. Honorary consultant posts to various hospitals were also held by members of the staff.

INSTITUTE OF CHILD HEALTH

The research work carried out by the Institute of Child Health continued to increase in volume and variety during 1964-65, when a number of new projects were commenced. With these increases, the accommodation available has become inadequate and approval for building a new laboratory and office and clinical accommodation, jointly approved by the University of Sydney and the Royal Alexandra Hospital for Children, has been sought from the Australian Universities Commission.

The Director and the Principal Medical Officer have continued to act as a member or chairman of a large number of committees and councils closely associated with the problems of child health and during the year the Director and Dr. B. T. Dowd of the Institute, acted as expert advisers in the preparation of the Infants Section of the Australian Pharmaceutical Formulary.

The scope of the activities of the Institute are varied and in the year under review included, in addition to the functions of research and teaching normally carried out, consultation with a number of hospital authorities on the planning of accommodation for children, expert opinion in relation to the treatment of juvenile offenders, and discussions with the New South Wales Child Welfare Department on the care of children in institutions.

Malignant Disease in Childhood

Work, begun during tenure of the Sister Sanders Scholarship in the University of Sydney in 1963-64, was continued by Dr. E. Dawson in the Institute of Child Health. This embraces two aspects of malignant disease in childhood.

A largely retrospective study of the therapeutic and side-effects of 29 courses of actinomycin D in 21 cases of Wilm's tumour has been completed, together with an exhaustive survey of the literature. The results of the study will shortly be submitted for publication and a preliminary communication of the salient features has been published in the

Medical Journal of Australia. This work has influenced the adoption of a new protocol for the treatment of Wilm's tumour at the Royal Alexandra Hospital for Children, and current study of new cases thus treated is expected to yield further material for the evaluation of actinomycin D.

Dr. Dawson has continued to assist Dr. C. G. W. Lee in the controlled trial of treatment of leukaemia, which commenced in May, 1963 on a nation-wide basis under the auspices of the Australian Cancer Society. All patients so far admitted to the trial from New South Wales have been studied intensively for the duration of their treatment. The work entails co-operation with Dr. Lee at a weekly clinic, where currently 10 to 14 patients are seen.

Metabolic Disorders

As a result of the screening survey being undertaken by the New South Wales Department of Health, through the Baby Health Centres, children with rare inborn errors of metabolism are now being detected. In the first year of this survey, five newly diagnosed phenylketonurics have come under the care of the Institute. The value of the low phenylalanine diet in this condition is being studied.

Certain other rare disorders revealed by this survey are also under detailed investigation.

Rickets

A study of vitamin D refractory rickets has been commenced with the aim of learning more of the natural history of this disease and of the therapeutic role of high dosage of vitamin D. All the patients enrolled in this study are, or have been, under the care of the staff of the Royal Alexandra Hospital for Children.

Nephrotic Syndrome

The progress of a group of children with the nephrotic syndrome is being followed. Particular attention is being directed towards the influence of corticosteroid therapy on the control of symptoms and proteinuria, and on the rates of linear growth and skeletal development of the children so treated.

General view of a ward at the Institute of Child Health.



Rheumatic Fever

The two main objects of the long-term study of rheumatic fever and chorea, begun in 1952, are to determine the effectiveness of penicillin prophylaxis in preventing rheumatic recurrence and ultimate cardiac damage and to study the history and course of the disease in as large a group of Australian children as possible.

Since its commencement, 253 children have received regular oral penicillin prophylaxis, but 26 of these have been lost from the group during 13 years, including four who have died. Whenever a new patient is admitted to the group, an initial home visit is paid by the social worker and further interviews are arranged as required. A number of patients have now left school and their type of occupation is being recorded together with any problems associated with their employment.

While studying the history and course of the disease, over 1,000 patients in all have been interviewed and examined. In addition, a large number of children have been examined whose clinical condition did not warrant a firm diagnosis of rheumatic fever or chorea. These are also reviewed from time to time.

Hypothyroidism

The long term study of cretinism continues and 11 infants and children of average age three years are now enrolled in the survey. The principal criteria of progress used are measurements of height, span, weight and developmental quotient. An initial assessment of osseous age, cholesterol and protein

bound iodine concentration in the serum is made, the latter estimation being repeated at about 12 monthly intervals to check clinical progress.

The study of thyroid antibodies in these children, their mothers and siblings, is being continued.

Urinary Tract Infections

The long-term study of urinary tract infections in childhood was continued. A clinical assessment of prolonged chemotherapy in chronic urinary infections remained an important consideration of the follow-up study. The association of vesico-ureteric reflux and diminished renal size in a considerable proportion of children with chronic urinary tract infections was confirmed.

Other Projects

Preliminary studies into the aetiology of increased density of the bones in infancy as shown by radiographic examination are in progress.

Work into psychological disorders in childhood is expanding. Particular attention is being given to methods of teaching both undergraduate and post-graduate students so that they may learn to carry out much of the therapy indicated.

Studies into endemic goitre in Tasmania have continued. These are expected to be finalised in the next year when a comprehensive report will be prepared.

Studies of thalassaemia in the community have continued.

NATIONAL BIOLOGICAL STANDARDS LABORATORY

About the same number of therapeutic agents were tested by the National Biological Standards Laboratory in the past year as in previous years, but the amount of work increased markedly due to a change in emphasis. There is now more intensive testing of products before they are listed as pharmaceutical benefits or are allowed to be imported into Australia.

The products now being marketed are becoming more sophisticated and potent. The establishment of standards for them requires a greater scientific subtlety and depth than for the traditional classes of therapeutic agents. These challenges are being met by the Laboratory.

The examination of goods on importation and representations by industry have brought forward the question of a Commonwealth policy on labelling. Controls over labelling vary from State to State and some requirements are conflicting. Over the past year this problem has been studied in collaboration with industry and proposals for uniform labelling have recently been defined and a large measure of agreement obtained.

Particularly important work was done during the year on one aspect of standards for intravenous infusions. It had been found that a very fine dusting of particles could be detected in some infusions. These particles were shown, in animal experiments, to be capable of blocking very fine blood vessels. The first and most difficult step towards establishing a standard was the development of a technique for counting and characterising this very heterogeneous and variable fine 'dust' of particulate matter in solutions. After trials with many different methods, the Laboratory has succeeded in adapting an electronic device, usually employed for counting blood cells, to measure the number and sizes of particulate matter in injections. Keen interest is being shown overseas in these developments.

It is hoped now to be able to set, within the near future, a quantitative standard of allowable particulate matter for intravenous infusions. When this stage is reached it should

also be possible to use the same techniques to establish quantitative standards for other forms of injections.

At the same time as this developmental work on standards for intravenous injections, close liaison has been maintained between the Laboratory and the manufacturers and a considerable improvement has already been made in the quality of these substances.

Another group of problems which has been tackled, in liaison with manufacturers, is the use of plastics for containers for injections, infusions, solutions and vaccines.

The main problems to be overcome are those of vapour transfer through the walls, interaction between the contents and the pack and the mechanical properties, especially that of the heat resistance of the packs. The last of these is particularly important because most plastics are not thermostable and cannot be heated enough to ensure sterility. At the Laboratory work is now in progress to define the most important considerations and what steps manufacturers should take to determine whether a particular plastic is satisfactory for a particular product.

Other important research work during the year concerned the method of estimating the potency of Sabin vaccine. It was considered that improvements could be made in the testing procedures and standards in general use overseas for this product. The application of recent technological advances to testing procedures has now made it possible to evolve a more accurate method of estimating potency than any available previously.

The output of the more routine type of analysis was maintained despite the attention paid to research into standards. The routine analysis covers samples of pharmaceutical benefit items and those taken under the Therapeutic Substances Act.

All items coming onto the pharmaceutical benefits list are tested and items already on the list, as well as other therapeutic products, are regularly sampled and analysed. Where products are found to be significantly different from the standards laid down they are removed

from the pharmaceutical benefits list. Application can be made after 12 months to have products which have been failed, re-listed and at this stage they are again tested. In the past year six items have been removed from the list after failing to pass analysis. In three cases items removed previously have been restored after passing re-test analysis.

The effects of this specific testing programme and of the random sampling of other products have helped to bring about a generally higher standard of quality control by manufacturers marketing pharmaceutical products in Australia.

The appointment of a highly qualified pharmacologist now permits the Laboratory to undertake the assessment of new drugs in the earlier stages of their development. Manufacturers provide the Laboratory with data based on acute and chronic animal experiments and intensive pharmacological studies on small groups of patients. This data is evaluated independently and the conclusions reached are compared with those reached by the manufacturer before more extensive clinical trials are begun. This work is carried out in close liaison with the Therapeutic Substances Branch and the Australian Drug Evaluation Committee.

An interesting and valuable development during the year was achieved in the Antibiotics Section of the Laboratory, when computer techniques were successfully applied in the processing of biological assay data. The processing of this data previously involved two or three technicians in many hours of calculations each day. Using the computer system, the same amount of data is now being processed in a fraction of a second.

The computer techniques being used were developed in conjunction with the Automatic Data Processing Section of the Department. Visitors to the Laboratory from the pharmaceutical industry and from other institutions have shown considerable interest in this application of computing methods to biological assays.

With the expanding functions of the Laboratory, accommodation remains a problem. Preliminary planning for a special complex of laboratory buildings, however, is now at an advanced stage. A site of 15 acres has provisionally been allocated at West Deakin, Canberra. The preliminary plans envisage a centrally placed, four-storey administration and service building flanked by two double storey laboratory blocks with a service building at the rear of the site. The complex, when completed,

will enable the six divisions of the Laboratory to be brought together in a planned lay-out.

The more important activities of the various sections of the Laboratory are summarised briefly below and statistics of tests performed are given in Tables 45 and 46 on pages 88 and 89.

Antibiotics

A considerable amount of work was done as part of a world wide collaborative assay organized by the World Health Organization to arrive at an international standard for viomycin. Further work proceeded in the appraisal of the quality of streptomycin products available in Australia.

Bacterial Products

The Bacterial Products Section co-operated in a project to determine the efficacy of known preservatives against various bacteria and fungi, with particular reference to those used in eye preparations.

At the request of the Australian Atomic Energy Commission a study was made, and a satisfactory method devised, for testing the efficacy of steam sterilisation of radioactive materials.

Endocrine Products

An investigation was conducted into dental defects in experimental animals. These, which appear to have been of nutritional origin, caused many deaths in the laboratory animals.

Samples of insulin, corticotrophin and heparin from all manufacturers whose products are marketed in Australia were examined during the year.

Viral Products

In addition to successful work on standards for Salk and Sabin vaccines, work is also proceeding on vaccines against infectious laryngotracheitis and infectious bronchitis. The control of these diseases is of major importance to the poultry farming industry.

Pharmaceutical Chemistry

Work has continued on the preparation of standards and the modification of existing ones to meet Australian conditions.

The routine sampling programme was reduced because of the increase in the number of urgent samples, such as pharmaceutical benefit applications and tender samples.

Pharmacology Section

Summaries of information on the evaluation of new drugs are being filed and indexed with a view to future research on the predictive value of animal tests currently used for determining safety.

COMMONWEALTH ACOUSTIC LABORATORIES

The outstanding development during 1964-65 was the completion and opening, on 22nd April, 1965, of the new Central Laboratories at Hickson Road, Sydney, and the new Clinical Laboratory at Grace Building, 77 York Street, Sydney.

The Central Laboratories have an area of over 10,000 square feet and house the Research Laboratories and Central Administration. A feature is the special anechoic room lined with plastic wedges to absorb incident sound. This provides a facility for the standard calibration of microphones and earphones for hearing aids and other instruments. A further feature is a noise room for reproducing sounds of very high level and for determining the effects of sound of a very high level on personnel. Clinical rooms are available for research into hearing defects and medical ultrasonics.

During the year a completely new Calaid, known as Calaid "E", was developed. The Calaid "E" is an ear-level aid with the earphone mounted in the earmould with the other components attached to the earmould, and the microphone is mounted to pick up sounds from the front. This design allows the fitting of this aid to young children.

Approval has been given for its issue to all children who will be helped by the new aid and it will also be fitted to Repatriation patients. The aid will be in production at the end of 1965.

Hearing Conservation

In 1964-65 considerable extensions were made in hearing conservation services, particularly in the Armed Services, in industry and with children. A new, much smaller battery audiometer is being obtained to facilitate this work and 20 special audiometers are being procured for the Department of the Army.

Following acceptance by the New South Wales Compensation Commissioner, increased requests have been made for assistance with hearing conservation schemes in industry. These programmes are organized and established by the Laboratories.

Approximately 270,000 hearing tests were made and 162 audiometers are on loan.

Clinical Audiology and Psychology

The clinical audiology and psychology service, carried out through the Laboratories in the States, extends to 10 country centres throughout Australia, in all States except South Australia and Western Australia. In 1964 a visiting service was established to the Northern Territory twice a year and the consultant ear specialist made a survey of ear, nose and throat problems during the September visit to this area.

Regular testing of Civil Aviation air crew has commenced in the Territory of Papua and New Guinea with two visits by the Officer-in-Charge of the Queensland Laboratory during the year.

Engineering

During 1964-65 the Engineering Section planned new laboratories in Melbourne, Hobart, Launceston, Lismore and Newcastle, and supervised the completion and equipping of laboratories for Canberra, for the New South Wales Branch and at the Central Laboratories in Sydney, where many unique facilities were installed. These required detailed design by the section as the techniques of construction and materials used were novel.

Assistance was given to other sections on the design of specialised equipment and development units were made of a wide range of devices, including the new in-the-ear hearing aid, Calaid "E".

Advice was given to many Commonwealth and State Government departments and instrumentalities on reducing noise in critical areas, including the C.S.I.R.O. National Standards Laboratory on noise isolation, the Bureau of Census and Statistics, Canberra on computer noise isolation, the Tariff Board, Sydney on modifications to existing premises and selection of new premises, the Commonwealth Arbitration Commission, Sydney on modification to existing premises using acoustical and electronic aids and design of new accommodation, and the P.M.G. Department in

Sydney and Melbourne on noise in critical areas. In addition, sketch designs were prepared for a number of audiology clinics in Repatriation and State Government hospitals and advice was given in selection of suitable equipment.

Standards

Following overseas visits by the Director in 1962 and Mr. R. A. Piesse in 1964, the Laboratories were instrumental in setting up a new section of the Standards Association of Australia in acoustics. The Director is Chairman of the main Steering Committee, of the Bio-Acoustics Committee and of the Sub-Committee on Aircraft Noise. Mr. Piesse is Chairman of the Sub-Committee on Acoustic Instrumentation and on Audiological and Audiometric Instruments.

Research is being conducted into these areas where sufficient information is not available to facilitate the issuing of standards.

Acoustic and Electro-acoustic Section

During the year research continued on the acoustical properties of in-the-ear hearing aids associated with the development of the Calaid "E". As there are many problems involved in operating miniature hearing aids in which all components are in close proximity, new techniques are required for assembly to ensure stability of operation.

Methods for the calibration of acoustic instrumentation, including apparatus for the measurement of blast or shock waves, and measurement techniques are being investigated. Much of this work is of considerable value in the development of Australian standards for acoustic instrumentation.

Investigations are progressing into methods for estimating noise levels from aircraft operations and maintenance facilities on R.A.A.F. air bases. These estimates are being used for determining the most suitable location for buildings and other constructions to ensure an adequate acoustic environment when the new F111 R.A.A.F. aircraft become available.

Research has commenced into instrumentation required for the study of propagation of sound over ground, and, as detailed knowledge of meteorological conditions are required for this work, methods for obtaining this information are being investigated.

Audiology Research

The main research programme during the past year was aimed at the application of the electroencephalograph to the determination of human auditory thresholds for pure tones. This

programme, which also employed as associated equipment a computer of average transients, has proceeded to the point where cortical "on effects" can be reliably associated with auditory stimulation at levels only slightly above auditory threshold as determined by conventional audiometry. Research will now continue to extend this method to testing the auditory thresholds of very young children—the area in which it is most needed.

Other investigations successfully completed included a study comparing the acceptability and effectiveness of vibration applied to the mastoid and electrical stimulation of the aural canal in eliciting the intra-aural reflex. The results, which clearly showed the superiority of the vibration method, were used, in conjunction with a device for measuring the acoustic impedance of the ear, to predict the effectiveness of surgery in alleviating certain types of conductive deafness.

Studies were also made of the auditory effects of ultrasonic therapy of Meniere's disease, and of the value of certain auditory tests, given before the operation, in predicting these effects.

Psychoacoustics

Development of procedures for calculating the loudness of explosions and sonic booms have been continued. The effect of two parameters of these sounds on loudness, peak level and repetition rate, was determined and verified experimentally. Development of further apparatus for these investigations is continuing so that more extensive investigations into the response of the ear to short duration sounds can be done in the near future.

Apparatus has also been developed for the investigation of the auditory localisation of explosive sounds and it is proposed to begin experiments in this field.

The results of investigations into the relative annoying properties of pure tones are being studied in relation to methods of calculating the annoyance of steady state sounds from physical measurements.

Medical Ultrasonics

A significant improvement has been achieved in the design of small diagnostic ultrasonic transducers. These efficient transducers are especially useful for internal scanning and will open a new field of application for the ultrasonic visualisation technique.

A new study has begun with the Institute of Cardiology at the Prince Henry Hospital to investigate possible ultrasonic applications in

cardiology. Initially these will include the study of the motion of the mitral valve, a simplified diagnosis of pericardial effusion and the applications of ultrasonic catheters.

The abdominal echoscope installed at the Royal Hospital for Women is being used to investigate a variety of clinical conditions. One hundred and fifty patients have been examined this year and structures such as pregnant abdomen, abdominal tumours, liver and kidneys have been visualised.

The ophthalmological echoscope has been installed at the Royal Prince Alfred Hospital and 12 patients have been examined.

Twenty patients with Meniere's disease have been treated using the C.A.L. ultrasonic generator. The C.A.L. transistorised nystagmograph was used to measure the patient's response to

pre-operative and post-operative calorie tests and to monitor nystagmus during the irradiation. The majority of patients retained their pre-operative hearing and all patients were relieved of their vertigo attacks.

The echo-encephaloscope installed at the Royal Alexandra Hospital for Children is being used routinely in clinical evaluations and a transistorised version is under development.

The work on the evaluation of the union of fractures in weight bearing bones and on the diagnosis of degenerative pulpitis is in progress. At the invitation of the U.S. Public Health authorities, Mr. G. Kossof attended the International Conference on Diagnostic Ultrasound in Pittsburgh and spent a month in the United States of America and Japan investigating the latest work in these countries.

Eight channel electro-encephalograph for audiology research at the Commonwealth Acoustic Laboratory, Sydney.



COMMONWEALTH X-RAY AND RADIUM LABORATORY

During the year, a review was completed of the levels of radiation dose for various categories of workers and for various centres. This review showed that in a number of centres the wearing of the monitoring films for short periods, in some cases for one week and for others for two weeks, was not warranted. In November, 1964, the various centres registered in the film badge service were classified into groups according to the ranges of radiation dose received by workers as determined by earlier monitoring. It was possible to extend the period of wearing of the monitoring films for personnel in a number of centres to four weeks. This increase in the period of wearing of the monitoring films reduced somewhat the workload on the staff of the service who were being overtaxed through the rapid expansion.

To reduce the radiation exposure to the staff of the Laboratory and to increase efficiency, semi-automatic equipment to separate the radon gas generated in the radium solution from other unwanted gaseous products was commissioned during the year, following its design and construction in the Technical Services Section of the Laboratory. Investigational work has continued on techniques for the rapid measurement of the activity of radon containers before issue and for the checking of other sealed radioactive sources.

Using the special facilities available at the Laboratory, radiographs for scientific purposes were made on three very valuable paintings for the National Museum of Victoria and on very small fish for the Department of Zoology, University of Melbourne.

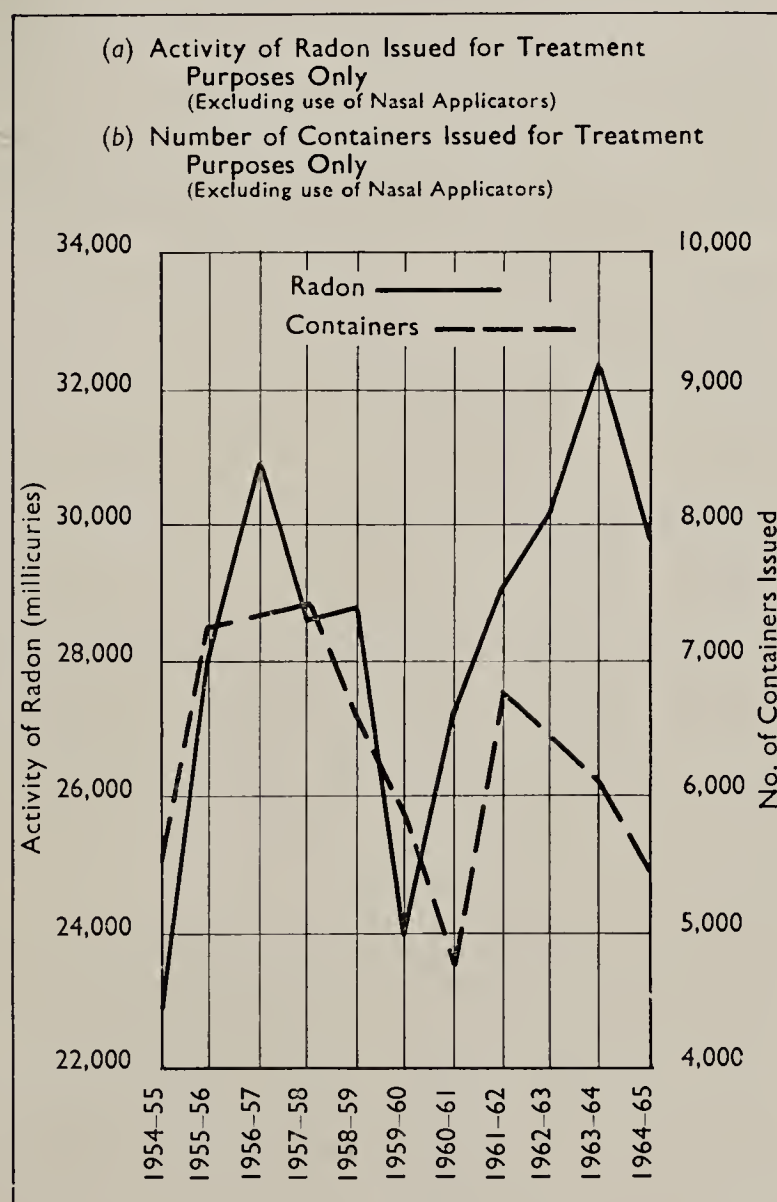
The present standard of X-ray dose covers the range of operation of X-ray equipment from 50kVp to 200 kVp. During the year, a standard of dose for X-rays generated at lower than 50 kVp was designed. Its construction in the Technical Services Section of the Laboratory is nearing completion. This equipment has been designed to permit the investigation of fundamental principles in the realization of a standard of dose for X-rays at this low energy.

During 1964-65, the film badge monitoring service was extended to include monitoring of

exposure to neutrons by the use of special films, and measurement techniques and monitoring of the radiation dose to the hands of persons manipulating radioactive substances, for example, through the use of special small photographic films mounted in finger rings.

Radium and Radon Section

The Laboratory has continued to discharge its responsibility with respect to the care and maintenance of the Commonwealth radium on loan to treatment and research centres. The re-mounting of some of the Commonwealth radium holding in containers more appropriate to present radiotherapeutic techniques has been planned.



The Laboratory provides radon for use in Victoria, South Australia, Western Australia and Tasmania, while in New South Wales and Queensland radon services are maintained by the States, using soluble radium made available on loan by the Commonwealth without charge. It will be seen from the accompanying graph that while the activity of radon issued by the Laboratory has increased markedly since the year 1959-60, the number of individual containers issued has decreased in recent years. This decrease reflects the changes which are occurring in the various treatment techniques using radon.

Radiation Dosimetry Section

The standard of X-ray dose established a number of years ago by the Laboratory has been maintained. Against this standard seven dosimeters, used in various centres in Australia to measure the radiation output of X-ray therapy units, were calibrated.

The routine services of the section, including the assessment of and reporting on the radiation output and associated characteristics of X-ray equipment, used in hospitals and private medical practices in treatment, and the dosimetry of beta-ray applicators for the treatment of superficial cancers, were maintained.

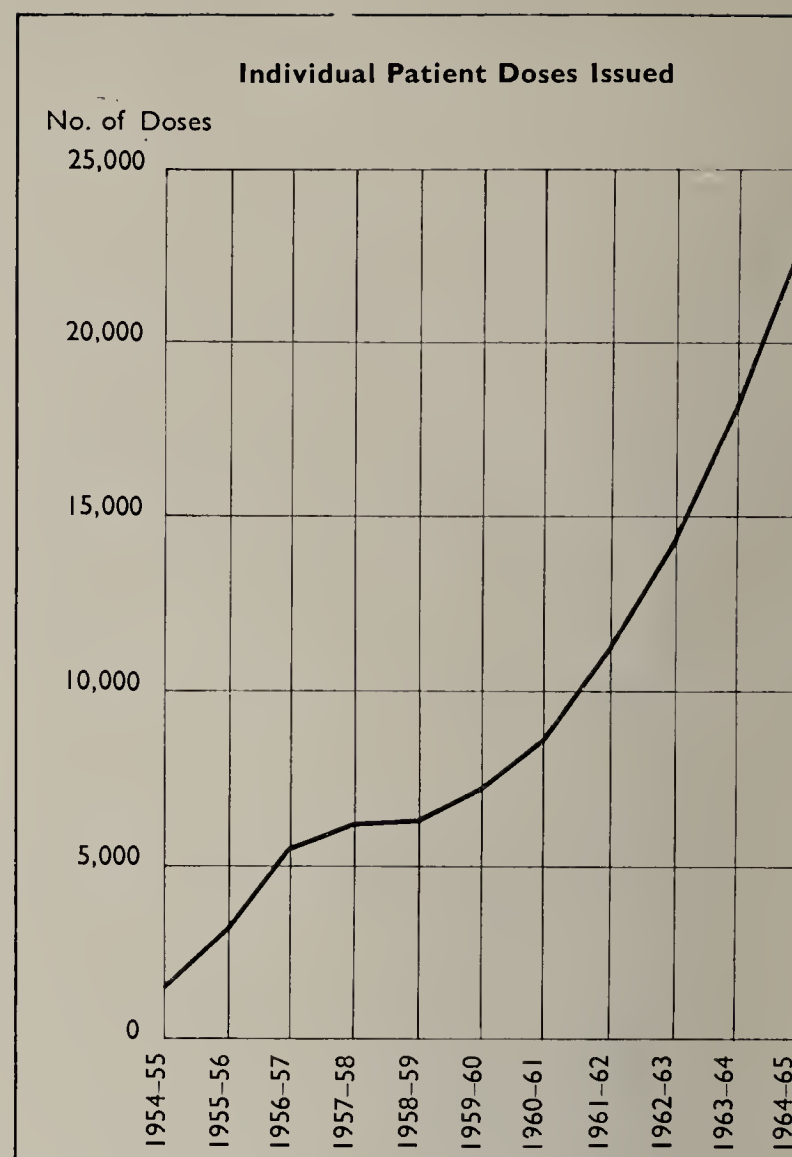
Radio-isotopes Section

In the 12 months ended 30th June, 1965, 1680 shipments of radio-isotopes were procured by the Laboratory for medical and medical research purposes. This represented an increase of 8 per cent over the number of shipments for the previous twelve months. Of the total, 83 shipments were procured from the Australian Atomic Energy Commission, compared with 76 shipments in the previous 12 months. The total shipments included 40 different isotopes in a large number of compounds.

In 1964-65, the Laboratory issued 22,491 individual patient doses of radio-isotopes for medical diagnosis and treatment, an increase of 24 per cent over the number for the previous year. The accompanying graph shows the growth of this aspect of the work of the Laboratory over the last 11 years.

Radiation Protection Section

During the year an offer of technical advice and assistance was made to State Departments of Health with respect to the evaluation and assessment of potential public health hazards from uses of radioactive substances and irradiating apparatus. The offer, which was made to formalise the ad hoc arrangements which



existed in past years, included the assessment of the potential radiation hazards of devices incorporating radioactive substances.

Advice and technical assistance was also provided on request to a wide variety of scientific laboratories, to hospitals and to industry. The service has ranged from the detailed design of radiation protective shielding in X-ray departments and radio-isotope laboratories to the monitoring of radiation levels and evaluations and recommendations of safety procedures.

The Laboratory acts as the scientific adviser to the Department of Shipping and Transport with respect to the carriage by ship of radioactive sources. Inspection of such cargoes and monitoring of radiation levels were carried out at the request of that Department and assessments have been made for that Department of the radiation protection features of a number of containers designed for the transport of very large radioactive sources.

Diagnostic X-ray Section

The Diagnostic X-ray Section continued to provide a service to orthodontists through the

taking of special skull radiographs of patients on equipment maintained for the purpose. In addition, the co-operation in the research work of the Growth Unit of the Department of Anatomy, University of Melbourne, was continued by the taking, on the same equipment, of special skull radiographs of subjects under study.

The Section also provides an advisory service to Government Departments and to hospital authorities with respect to technical aspects of diagnostic X-ray equipment.

Film Badge Service

During 1964-65, 65,299 individual monitoring films were assessed and reported on, compared with 72,411 for the previous year. The number of centres registered in the service rose from 674 at the beginning of 1964-65 to 815 at the end of the year. This increase reflects the increase in the number of radiation workers now monitored by the film badge service of the Laboratory.

Radiochemical and Low Level Measurement Section

The work of the Radiochemical and Low Level Measurement Section is directed, through the radio-assay of samples, towards the investigation of possible radiation exposure of the Australian population, or of sections of it, from radioactive substances in the environment. Measurement of both natural and man-made radioactivity are therefore being made.

During the year, the section performed, on a continuing basis, assays of public water supplies, liquid milk, ion-exchange columns for collecting fall-out, air filters for collecting fall-out and meat. In addition, assays were made on a number of sea water samples taken daily in the neighbourhood of nuclear powered ships berthed in Australian ports and on a number of plant samples. During the year approximately 1,065 samples were the subject of chemical preparation and subsequent radio-assay.

Some of the above assays were carried out on behalf of the Australian Atomic Weapons

Tests Safety Committee in its continuing Australia-wide programme of monitoring global fall-out arising from the testing of nuclear weapons.

Technical Services Section

In its investigational activities and for its service and advisory functions, the Laboratory uses a wide range of mechanical and electronic equipment. A well-equipped Technical Services Section constructs and maintains much of the scientific equipment in use. Through the various stages of design, construction and testing, the development of new investigational equipment is routinely made a joint project of the Technical Services Section and the relevant operative section of the Laboratory.

Overseas Visits

The Director of the Laboratory was the Australian representative at the 14th session in New York of the United Nations Scientific Committee on the Effects of Atomic Radiation, and he is currently chairman of this important committee. He also attended the third conference on the peaceful uses of atomic energy in Geneva and briefly visited Holland and the United Kingdom for discussions on subjects relating to the work of the Laboratory. In May, he was invited by the World Health Organization to be one of its four representatives at the third meeting in Vienna of the International Atomic Energy Agency Panel on Permissible Emergency Radiation Doses to the Public.

In May the Principal Physicist (Radioactivity) attended an International Atomic Energy Agency Symposium on radio-isotope sample measurement techniques in medicine and biology in Vienna. He later travelled to the United Kingdom and the United States of America where he visited hospitals and laboratories with reference to the medical use of radio-isotopes, radiation protection and measurement of radioactivity. In the United States he attended the 12th Annual Meeting of the Society of Nuclear Medicine.

COMMONWEALTH BUREAU OF DENTAL STANDARDS

For more than 18 years the Commonwealth Bureau of Dental Standards has been concerned in improving and maintaining the standard of materials, instruments and techniques used in Australian dentistry. The success of these efforts is well recognized in the dental profession and trade and, although the results appear less tangible because of the special nature of the service, the consequential benefits to the general public are just as real and substantial as achievements in other fields.

Checking for Quality

Constant testing of the many dental products available is one of the functions of the Bureau. In the current year an extra load has been carried because of an accumulation of check tests required in conjunction with the Australian Dental Association's programme of certified materials, in which some 180 different dental products are now listed. In future this work will be spread by taking the materials in sequence, one or two groups at a time.

On account of the additional check testing and a large volume of testing for manufacturers and distributors, it has been necessary to curtail some of the other essential activities, owing to staff limitations. As an indication of the more than two-fold increase in testing work, the number of products for which reports were issued is compared with that for the previous year:—

	1963-64	1964-65
Mineral products	13	39
Cements	18	21
Waxes and impression materials	34	80
Synthetic resins	35	68
Metals and alloys	68	174
Instruments and x-ray films	9	43
Surgical and therapeutic materials	24	64
Total	<u>201</u>	<u>489</u>

Of the 1964-65 total, 285 products were tested on a fee basis for manufacturers and distributors, and 20 per cent were directly for overseas firms. As from 1st July, 1965 the nominal testing fees have been approximately doubled.

Testing Specifications

For most types of dental materials standard specifications have been drawn up through the Standards Association of Australia and nearly 30 such dental standards are now in operation. During the year Australian standards have been published for hand instruments (AS T23), gold solders (AS T26), and resilient orthodontic wires (AS T32). Standards for elastomeric impression materials (to be AS T27) and cold-processing denture repair resins to be (AS T31) are in the final stages of preparation. Assistance has been given in the formulation of other standards such as those for hypodermic needles for insulin injection (AS T34) and for metals for the manufacture of surgical implants (to be AS T35).

Australian standards have been adopted by the Dental Materials Board of the Australian Dental Association for use in its successful programme of accreditation of products. The specifications form the bases of acceptance of materials for the Board's published List of Certified Products used by dentists as a guide to their purchasing. The scope of the programme has recently been extended to include dental X-ray film, casting investment, gold and silver solders, hypodermic needles and cobalt-chromium casting alloy.

Casting Problems

Gold alloys and cobalt-chromium alloys are used extensively in dentistry for the preparation of inlays, crowns and partial dentures. For these purposes the alloys must be resistant to tarnishing and to damage in preparation and use.

The gold alloys have been covered by adequate specifications for many years, although there are problems in the casting of sound tensile test specimens. This problem is accentuated with the higher melting cobalt alloys which are chiefly processed in commercial dental laboratories with special equipment designed for the purpose. Using metallographic examination, chemical analysis, and variations in technique, considerable attention has been given to solving this difficulty, with

the result that specimens can be cast without apparent flaws, although there still is some discrepancy with the results obtained for elongation (a measure of ductility) compared with published figures.

The design of the mould, the investment of the wax pattern, the method of melting the alloy and the casting temperature have been found to need careful control for sound tensile specimens.

Properties of X-ray Film

The current Australian standard for dental diagnostic film is inadequate in regard to the assessment of several critical qualities, namely, speed, contrast, resolution and fog.

With the assistance and advice of the Commonwealth X-ray and Radium Laboratory, standard equipment and techniques have been developed for determining the sensitometric properties of the various types of dental film available on the Australian market. A report on the methods used is to be published as a guide to future standardization and testing and to the selection of products.

Amalgam Investigations

A Canadian development for the hardening of dental amalgams by the dispersion of very fine spherical particles through the amalgam is under investigation. A piece of equipment designed at the Bureau has proved useful in amalgam investigations and the machine is being duplicated in Japan for comparative studies.

Mechanical methods are more and more replacing the mortar and pestle method for mixing amalgams and the growing range of machines now available have been studied in regard to design and performance.

The Bureau was called upon to advise on a problem concerning the supply of amalgam alloys in Scandinavia. This involved a series of tests on various Swedish alloys. Another project has been initiated on some Indonesian alloys.

Prophylaxis Pastes

The pastes used by dentists when removing plaque and stains leave the teeth clean and receptive for fluoride protection. The idea of incorporating suitable fluorides in these prophylaxis pastes appears to be a sound one and laboratory tests have been carried out to assess the amount of protection afforded against attack by organic acids.

Metallography

An intensive examination of gold alloys in relation to a research project of casting inlays and crowns to an electroformed gold matrix has been carried out in conjunction with a Sydney dentist. Improved techniques for preparation of sections have given more adequate metallographic information.

Dental Materials in New Zealand

In October, 1964, the Director, by invitation, took part in consultations in Wellington, Dunedin and Christchurch on the testing, standardization, and certification of dental materials available in New Zealand. The Division of Dental Health, the N.Z. Dental Association, the N.Z. Standards Institute, the University of Otago Dental School and the dental trade were involved in the discussions.

San Francisco Meeting

With the assistance of American funds, the Director was invited to a combined meeting of the American Dental Association and the Fédération Dentaire Internationale in November, 1964. As a member of the reconstituted F.D.I. Commission on Dental Materials, Instruments, Equipment and Therapeutics, he attended a meeting to discuss international standards for dental materials and he also participated in a symposium on new developments in dental materials with a paper on "Gypsum research in Australia". The A.D.A.-F.D.I. meeting was attended by some 23,000 persons and the programme of lectures, clinics, and trade exhibits was very extensive and of particular interest.

INSTITUTE OF ANATOMY

As part of a campaign for the prevention of goitre in Australia, the distribution of iodine tablets to the Department of Health in Tasmania, has continued. Although Canberra is situated in a goitrous area, the distribution of supplemental iodine-containing tablets or salt has been made unnecessary following the use of potassium iodate as an ingredient in all bread improver used in the baking of bread in Canberra. Potassium iodate has been used for this purpose in the United States of America for more than 30 years, and it replaces most of the potassium bromate which otherwise is the main ingredient of bread improver. Not only does potassium iodate lead to a more attractive loaf of bread, but it contributes useful amounts of iodine to diets in areas where iodine is deficient.

Members of the staff have continued to serve on committees and councils requiring expert nutritional contributions. These include the Nutrition Committee of the National Health and Medical Research Council, the National Food and Agriculture Organization Committee, the Standing Committee on Nutrition of the Pacific Science Association, and the Australian Dietetic Council. The Nutrition Section has accepted the responsibility for organising a symposium on the sociocultural aspects of nutrition to be held at the 11th Pacific Science Congress at Tokyo in 1966.

Data relating to a survey of the diets of pregnant and lactating women are being processed and put into order for later publication. Material has been prepared for inclusion in a booklet dealing with physical fitness, at present being prepared by the National Fitness Council.

The publication every two months of "*Food and Nutrition Notes and Reviews*" has been

continued, as well as advisory services on nutrition problems to a number of Government Departments and to private organizations and individuals. The pamphlets "Simplified Food Composition Tables", "Healthy Teeth for Your Children", and "Keep Fit with Food" were reprinted during the year and work is in progress with the revision of the following booklets:—

Tables of Composition of Australian Foods,
Notes on Special Diets for Hospital Purposes, and
Tables of Australian Dietary Allowances.

Museum

Part of a new exhibit dealing with the ancestry of man has been completed and installed.

A number of collections purchased by the Australian Institute of Aboriginal Studies have been incorporated in the National Ethnographic Collection, held at the Institute. These are as follows:—

H. P. Moss Collection
H. M. Cooper Collection
Douglas Seaton Collection
R. P. Nixon Collection
Collection of Artefacts used in Ubar Ceremony
Dr. W. Laade Collection
Specimens purchased by Mrs. S. Holmes for the Institute
Wishart Collection
Dyer Collection
Kupa Collection
Von de Leeden Collection
Djalambu, Objects of Karma Ceremony.

NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL

During the year ended 30th June, 1965, two sessions of the National Health and Medical Research Council were held, and there were over 80 meetings of the various committees and sub-committees of the Council. The 58th Session of the Council was held at University House, Canberra on 29th and 30th October, 1964, and the 59th Session was held at the School of Public Health and Tropical Medicine, Sydney, on 28th May, 1965.

This year, for the first time, recommendations of the National Health and Medical Research Council requiring action by the health authorities were presented to the Conference of the State Ministers of Health held at Cairns on 8th June, 1965. The recommendations of the Council that were considered at this meeting related to the revision of laws on notification of diseases, designation of national reference laboratories, labelling of prescribed medicines, advertising of proprietary medicines, perinatal death certification and the use of the International Classification of Diseases for indexing of hospital records.

Medical Research

The amount of £413,000 was allocated to the Medical Research Endowment Fund by the Commonwealth Government in 1964-65 for expenditure on grants for medical research recommended by the Council. The increase of £94,500 over the previous year's allocation (£318,500) was given to provide funds to support research projects in new medical schools at the University of New South Wales and Monash University and to provide increased salaries for graduate medical research staff receiving salaries under National Health and Medical Research Council grants. These increases in salary followed the adoption of a new salary structure for these research personnel closely following university salary scales for academic staff.

One hundred separate research projects were supported by National Health and Medical Research Council grants for medical research during 1964 and 108 are being supported in 1965. A detailed report of the work supported

by National Health and Medical Research Council grants is presented to Parliament each year.

Antibiotics

The Council has been concerned about the use of antibiotic sensitivity tests in general medical practice and has informed medical practitioners that the hazards associated with their use far outweigh their limited application in the solution of common diagnostic problems.

The Council has also been concerned with the prevention and treatment of penicillin anaphylaxis and has advised medical practitioners on the precautions to be taken.

Cancer Detection Programmes

The Council has drawn attention to the value of cytological smears in programmes for the early detection of cancer of the cervix and has established group priorities to be followed where facilities are not yet available to enable all women to be examined.

Driving Licences

The Council considered that special measures should be taken to ensure that persons are not licensed to drive motor vehicles who are liable to sudden periods of unconsciousness due to diabetes, hypoglycaemia and epilepsy. The Council prepared a detailed guide to licensing authorities concerning the provision of licences in these cases.

Dental Health

The Council has given further consideration to the question of diet and dental health, and has drawn up a guide to the selection of the most suitable products for sale at school tuck shops. This guide will be directed to the attention of education and child health organizations.

The Council has recommended a schedule for the uniform collection and recording of dental health data and this has been distributed to dental practitioners throughout Australia.

Epidemiology

The Council has drawn attention to the fact that the list of notifiable diseases in most States and Territories is outmoded, not uniform, and

requires revision. It has recommended a uniform list of notifiable diseases for adoption by the States and Territories.

The Council has also recommended appropriate periods of exclusion from school of children suffering from infectious diseases and for infectious diseases contacts.

Food Additives and Food Standards

The work directed toward the elaboration and adoption of uniform food standards has continued and, during the year, new or revised draft standards were issued for canned food, chocolate and confectionery, fish and fish products, milk and milk products, meat and meat products, spices and condiments.

Labelling of Prescribed Medicines

The Council has urged early implementation of legislation to ensure that all medicines, when received by the patient, are labelled to indicate clearly the active ingredients in the product, unless the prescribing doctor desires otherwise.

Medical Statistics

The proposals in the Eighth Revision of the World Health Organization International Classification of Diseases have been considered and Australia's comments have been drawn up prior to the meeting of the Revision Conference in Geneva in July, 1965. The Council has recommended that the International Classification of Diseases be adopted for the indexing of hospital records.

The Council has also drawn attention to the important contribution cancer registries can make to the study of cancer aetiology, and hence to cancer prevention. These registries assist in the assessment of early detection programmes, and the relative merits of different therapeutic methods.

The tabulation of data obtained in a national morbidity survey has been completed, giving information on the number and types of different illnesses treated by selected general practitioners throughout Australia. The results of the survey will be published at a later date.

National Reference Laboratories

The Council recommended that there be established in Australia a number of National Microbiological Reference Laboratories to identify new and unusual strains of viruses and other organisms which cannot fully be identified with normal laboratory facilities. Council considered that there should be only one

officially designated National Reference Laboratory for any closely related group of organisms, and emphasised that the national reference function of a laboratory must be clearly distinguished from any primary activity for which a laboratory was established and from any research activities in the laboratory.

The Council also recommended the official designation of certain institutions and individual microbiologists as National Reference Centres and National Reference Experts for certain diseases and micro-organisms.

Occupational Health

The Council has given further consideration to the control of carbon monoxide concentrations in air when machines are used in confined spaces and has issued detailed recommendations concerning the use of liquid petroleum gas and petrol powered machines in ships' holds.

The Council adopted a code of practice in the use of ionizing radiation in secondary schools. This code gives the basic philosophy behind the current approach to hazards associated with the use of ionizing radiations, general rules to be observed in school experiments, and directions for the safe handling, storage, labelling and disposal of radioactive sources.

Radiation Health

The "Radiation Protection Standards for Individuals Exposed to Ionizing Radiation" have been extended and the Council has adopted a "Code of Practice for Nursing Staff Exposed to Ionizing Radiations from Radioactive Substances". This code provides guidance for nurses engaged in specific duties which could subject them to exposure from ionizing radiations from radioactive substances, and gives in detail the steps to be taken to provide protection against radiation, the procedures to be adopted in hospital wards and the principles which should be applied in all cases where a contamination risk exists.

Traffic Injury

In considering the prevention and treatment of traffic injuries the importance of seat belts was again emphasised. The Council also recommended, for the consideration of the Commonwealth and State Governments, that effective door latches be required in all new cars. The Council also gave consideration to the appropriate equipping of ambulances to provide emergency treatment to victims of traffic accidents.

WORLD HEALTH ORGANIZATION

The Eighteenth World Health Assembly was held at Geneva from 4th to 21st May, 1965. One hundred and seventeen member states and three associate members were represented at the Assembly, in most cases by the Director-General of Health or his equivalent.

The Australian Delegation consisted of Major-General W. D. Refshauge, Director-General of Health, as Chief Delegate, and other delegates were Dr. R. C. Webb, Chief Medical Officer, Australia House, London, and Mr. J. A. Forsythe, Counsellor, Australian Embassy, Bonn. The alternate delegates were Dr. E. F. Thomson, General Superintendent, Royal Prince Alfred Hospital, Sydney, Dr. S. G. Preston, Medical Director, Australian Migration Mission, The Hague, and Dr. H. K. Pavy, surgeon, member of the South Australian Branch of the Australian Medical Association.

Some of the more important matters discussed at the Assembly were the malaria eradication programme, the smallpox eradication programme, the medical research programme, including proposals to establish a World Health Research Centre and an International Agency for Cancer Research, and the quality control of pharmaceutical preparations.

Malaria

Of the 1560 million population originally in the malarious areas of the world when the malaria eradication programme began in 1955, 1168 million (75%) now live in areas where malaria has been eradicated or where eradication programmes are in progress. With the exception of Africa, most countries are in the consolidation phase and, in Africa, there are pre-eradication programmes in thirteen countries.

Australia supports the programme and regards it as the most important in medical history. There is, however, negligible malaria on the Australian mainland. A few cases have been reported in the Northern Territory in recent years, but most of these have been imported. In Papua and New Guinea an intensive control programme is in progress.

In his report to the World Health Assembly, the Director-General of the World Health Organization referred to the general progress that had been made in the global malaria eradication programme. One of the major problems remaining for W.H.O. was the eradication of the disease for the remaining quarter of the population at risk. The success of the eradication programme in these areas is dependent upon the availability of staff, funds and the time required for the solution of the technical problems, together with the building up of the basic health services in the respective countries.

Another problem, following the increasing population in the maintenance phase, was to ensure that the disease was not reintroduced into those areas where eradication had been achieved.

Smallpox

The smallpox eradication programme has not achieved a great measure of success. Although the number of cases notified in the past year has fallen, the disease is still widespread.

Some cases occur in Europe, but the disease is particularly endemic in Africa and Asia, particularly India. In 1964 the total number of cases notified in the world was 47,492, including 9,862 deaths. This compares with a total number of 98,720 cases, 24,530 deaths, in 1963.

The Assembly noted with concern that, although some recently endemic countries have eradicated the disease as a result of well-organized campaigns, progress in general is slow and major endemic foci remain in Asia, Africa and the Americas. It was estimated by the World Health Organization that smallpox might be eradicated within 10 years for an international expenditure of U.S.\$23.5 to 31.0 million, in addition to the provision which the countries having the endemic smallpox themselves can make. In addition to the supplies of freeze-dried vaccine produced in endemic areas or already being provided in bilateral agreements or through voluntary contributions, it would be necessary for W.H.O.



The Eighteenth World Health Assembly at Geneva, May, 1965.

to provide for up to 50 million doses of the vaccine annually to successfully carry out the programme.

The Assembly declared the world-wide eradication of smallpox to be one of the major objectives of the Organization and called for a much greater international effort in an attempt to eradicate the disease.

Medical Research

A proposal to establish a World Health Research Centre was originally considered at the Seventeenth World Health Assembly. No decision was taken at this time and the matter was considered again at the Eighteenth Assembly. The Centre, as proposed, would carry out large-scale laboratory research into epidemiology, communications of science and technology, and biomedical problems.

The Eighteenth Assembly believed that the establishment of the Centre on the lines proposed by the World Health Organization required further study and consideration. As a step for the extension of W.H.O. activities in the field of health research, however, it

was requested that the Organization take action to develop research activities and services in epidemiology and the application of communications, sciences and a system of reference centres. This was to be achieved through collaboration and co-operation with national research institutions rather than through the establishment of separate international laboratories.

A less ambitious proposal for the establishment of an International Agency for Research on Cancer was approved by the Eighteenth Assembly. This Agency will be established as a semi-autonomous organization and was sponsored by the Governments of Germany, France, Italy, United Kingdom and the United States of America. The Agency will serve as a means through which participating States and the World Health Organization, in liaison with the International Union against Cancer and other interested organizations, may collaborate in all phases of cancer research.

Any member of W.H.O. may become a participating member of the Agency, provided they are able to contribute scientifically and financially to the work of the Agency.

The Australian representative at the Assembly announced the decision of the Australian Government to become a participating member of the Agency.

Quality Control of Pharmaceutical Preparations

The Australian alternate delegate, Dr. E. F. Thomson, who is the Chairman of the Australian Drug Evaluation Committee, spoke for Australia on this item. He outlined the measures taken in Australia to control the standards for pharmaceutical preparations.

The Organization was requested by the Assembly to continue the assistance to member countries to develop their own testing facilities and to strive for the establishment of internationally accepted principles and specifications for the control of the quality of pharmaceutical preparations.

General

Other matters considered by the Eighteenth Assembly included the programme and budget estimates for 1966, the general programme of work covering the period 1967-1971 and amendments to the International Sanitary Regulations.

REGIONAL COMMITTEE FOR WESTERN PACIFIC

The Fifteenth Session of the World Health Organization Regional Committee for the Western Pacific was held at Manila from the 17th to 22nd September, 1964.

The Australian delegation was headed by Dr. H. E. Downes, Deputy Director-General of Health, with, as alternate representatives, Dr. R. F. R. Scragg, Director of Public Health, Territory of Papua and New Guinea, Dr. C. J. Ross-Smith, General Secretary, Australian Medical Association, and Mr. R. A. Walker, Second Secretary, Australian Embassy, Manila.

Fifteen countries were represented at the meeting, with delegates present also from the United Nations and its specialized agencies and other inter-governmental and non-governmental organizations.

The meeting dealt with the programme and budget for 1966 and administrative and health problems relating to the Western Pacific Region. Some of the health matters discussed included research in population genetics of primitive groups, cholera, protection of the

pre-school child, public health aspects of protection against ionizing radiation, dental epidemiology and national dental services. In addition to these debates there were technical discussions under the heading "The Use of Statistics in Public Health Administration".

Research in Population Genetics of Primitive Groups

The Fourteenth Session of the Regional Committee emphasized the importance of studies aimed at determining the genetic profiles of isolated groups living in developing countries in the Western Pacific Region. The Fifteenth Session decided to support, within budgetary limitations, the recommendation that W.H.O. should take the initiative in exploring the possibilities of such research. It was reported that a human geneticist had recently been appointed as head of a new unit at Geneva.

Protection of the Pre-School Child

The Committee emphasized the need for extending and improving the health services provided for the pre-school child, with particular attention being paid to improved nutrition, the establishment of pre-school welfare clinics and the intensification of immunization programmes. It was recommended that maternal and child health services should be broadened to include adequate measures to improve the health of the pre-school child.

The Australian representative outlined the services available to the pre-school child in Australia.

The Public Health Aspects of Protection Against Ionizing Radiation

The Australian representative spoke on the development of radiation control programmes in Australia and expressed the hope that international agencies would use common standards. Subsequently a resolution was passed which recommended the establishment of national programmes of radiation protection within the framework of public health services.

The meeting confirmed that the Sixteenth Session would be held in Korea. It was decided that the subject for technical discussions at this Session should be "The Use of Health Education Services in National Health Programmes".

COMMONWEALTH GRANTS

The Commonwealth Government, through the Department of Health, makes available grants to State Governments and non-profit-making organizations to subsidize various schemes for the promotion and maintenance of health services for the community.

AUSTRALIAN RED CROSS SOCIETY— BLOOD TRANSFUSION SERVICE

One of the most important of the services rendered by the Australian Red Cross Society is its Blood Transfusion Service which operates in all States and Territories of the Commonwealth.

Since 1954 the Commonwealth has made an annual grant, to each State Government, equal to 30 per cent of the operating costs of the Blood Tansfusion Sevice incurred by the Society in each State, provided that 60 per cent of the operating costs is met by the State concerned, leaving 10 per cent to be met by the Society.

Details of grants made by the Commonwealth during the period under review are shown in the following table:—

State	1964-65 £
New South Wales	54,828
Victoria	64,306
Queensland	45,101
South Australia	23,370
Western Australia	20,893
Tasmania	5,393
	£213,891

ROYAL FLYING DOCTOR SERVICE

The Royal Flying Doctor Service of Australia is conducted by a Federal Council comprised of representatives of seven sections, namely: New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania and the Eastern Goldfields (W.A.). Each of these sections accepts responsibility for the general administration of a particular operating territory, which is not necessarily located in the section.

The work of the councillors and of the organizations which support and assist the administration is purely voluntary. The service is not conducted with a view to profit.

The Royal Flying Doctor Service, which operates from 14 bases, provides medical services to people in isolated areas. As an important addition to its main function, wireless communications are maintained for medical consultation, educational, business, private and social purposes.

Charges are made in some sections for services available on a fixed basis, while other sections do not have a fixed scale of charges, but seek contributions from those who use their services, according to ability to pay.

The Commonwealth has been making grants available towards the cost of operating the Royal Flying Doctor Service since 1936. The Commonwealth grant in 1964-65 was £95,000. This provided for £55,000 towards the cost of operational expenses and £40,000 towards the cost of capital expenses. The Commonwealth also continued to meet the cost of the contents of standard medicine chests, supplied for use in the various centres serviced by the Royal Flying Doctor Service when doctors give medical advice by radio.

HOME NURSING SUBSIDY SCHEME

The Home Nursing Subsidy Scheme, which came into operation on 1st January, 1957, was designed to assist in the extension of home nursing activities, either by the expansion of existing home nursing organizations or the formation of new ones. To be eligible for a subsidy, an organization must provide a home nursing service, be a non-profit-making organization, employ registered nurses and be in receipt of assistance from a State Government or a local governing body established under a State Act.

Subsidy payments are based on the number of nurses employed over and above the number employed during September, 1956, in the case of existing organizations, and on the total number of registered nurses employed by

organizations formed after that date. A subsidy at the rate of £1,000 per annum is paid in respect of each additional nurse employed in the first instance and at the rate of £500 per annum in respect of nurses employed by organizations which commenced after September, 1956.

The annual subsidy paid by the Commonwealth since the inception of the Home Nursing Subsidy Scheme has been—

	£
1956-57	1,807
1957-58	18,135
1958-59	34,538
1959-60	53,616
1960-61	78,014
1961-62	107,668
1962-63	144,387
1963-64	185,938
1964-65	232,339

The Commonwealth subsidy is paid to various district nursing organizations for the employment of 283 trained nurses over and above the number in employment when the scheme commenced.

FREE MILK FOR SCHOOL CHILDREN

The improvement of the health of the children of any community is of vital importance and the decision by the Commonwealth Government in 1950 to include a Free Milk Scheme for school children in the Commonwealth's national health programme was a progressive step in this direction.

The implementation of the Scheme was authorized by the States Grants (Milk for School Children) Act, 1950, which makes provision for the Commonwealth to subsidize the States for the cost of providing free milk to school children. The State Governments administer this Scheme and the Commonwealth reimburses the cost of the milk supplied and half the cost of any capital, administrative or incidental expenditure.

The grant for 1964-65 was £4,029,646 which permitted the free distribution of one-third of a pint of milk on each school day to approx-

imately 1,517,000 school children attending public and private primary schools, kindergartens, creches and aboriginal missions throughout Australia. The cost per child in 1964-65 was £2 13s. 1d.

Expenditure by the Commonwealth on the Free Milk Scheme since its commencement is shown in Table 51 on page 90. However, these figures do not include amounts reimbursed to the States in respect of half the cost of capital, administrative and incidental expenditure, which was £12,672 for 1964-65.

Consequent upon an experiment carried out in 1963-64 in northern Tasmania, where flavoured and homogenized milk was introduced, the experiment was continued in schools in southern Tasmania and the increase in consumption of approximately 15 per cent in southern Tasmania was similar to that experienced earlier in the northern districts.

MENTAL HEALTH INSTITUTIONS

During the year the States Grants (Mental Health Institutions) Act, 1964 came into operation and, in broad terms, the new legislation provided that for three years, concluding on the 30th June, 1967, the Commonwealth would provide a grant of one-third of amounts expended by the States on the buildings and equipment of mental health institutions.

Whereas under the States Grants (Mental Institutions) Act, 1955, a limit was placed on expenditure by the States, the 1964 Act provides no limits during the three years of its operation, either in total or for individual States.

The following grants were made in 1964-65:—

	£
New South Wales	329,669
Victoria	355,689
Queensland	112,314
South Australia	132,392
Western Australia	223,264
Tasmania	98,458
	£1,251,785

APPENDICES

STATISTICS AND PUBLICATIONS

CONTENTS

APPENDIX 1 — STATISTICS

Table No.		Page No.
	NATIONAL HEALTH.	
1.	Departmental Expenditure—1960-61 to 1964-65	72
	HOSPITAL BENEFITS.	
2.	Number of Registered Organizations, Membership and Coverage— 1952-53 to 1964-65	72
3.	Number of Registered Organizations, Membership and Coverage— by States—30th June, 1965	73
4.	Benefits Paid to Contributors by Registered Organizations—1952-53 to 1964-65	73
5.	Benefits Paid to Contributors by Registered Organizations—by States—1964-65	73
6.	Amount of Commonwealth and Fund Benefits Paid—by States— 1964-65	74
7.	Amount of Commonwealth Nursing Home Benefit Paid—by States— 1964-65	74
	MEDICAL BENEFITS.	
8.	Number of Registered Organizations, Membership and Coverage— 1953-54 to 1964-65	74
9.	Number of Registered Organizations, Membership and Coverage— by States—30th June, 1965	75
10.	Medical Services Received by Contributors to Registered Organiza- tions—Fee-for-Service only 1953-54 to 1964-65	75
11.	Medical Services Received by Contributors to Registered Organiza- tions—Fee-for-Service only—by States—1964-65	75
12.	Cost of Medical Services to Contributors to Registered Organiza- tions—1953-54 to 1964-65	76
13.	Cost of Medical Services to Contributors to Registered Organiza- tions—by States—1964-65	76
	PENSIONER MEDICAL SERVICE.	
14.	Number Enrolled, Number of Services Received and Average Attend- ances per Enrolled Person per annum—1951-52 to 1964-65	76
15.	Number Enrolled, Number of Services Received and Average Attend- ances per Enrolled Person per annum—by States—1964-65	77
16.	Number of Participating Doctors, Payments Received and Average Annual Payment per Doctor—1951-52 to 1964-65	77
17.	Number of Participating Doctors, Payments Received and Average Annual Payment per Doctor—by States—1964-65	77
	PHARMACEUTICAL BENEFITS.	
18.	Cost of Prescriptions—1960-61 to 1964-65	78
19.	Cost of Prescriptions—by States—1964-65	78
20.	Dissection of Benefit Prescription Costs into Ingredient Cost and Chemists' Remuneration—1960-61 to 1964-65	78
21.	Dissection of Benefit Prescription Costs into Ingredient Cost and Chemists' Remuneration—by States—1964-65	79

CONTENTS—Appendix 1—continued.

Table No.	Page No.
22. Number of Prescriptions, Average Cost per Prescription and Average Cost per Head of Population—1960-61 to 1964-65	79
23. Number of Prescriptions, Average Cost per Prescription and Average Cost per Head of Population—by States—1964-65	79
24. Payments to Hospitals and Miscellaneous Services—1964-65	80
25. Number of Pharmaceutical Chemists and Medical Practitioners Dispensing Pharmaceutical Benefits Prescriptions—1949-50 to 1964-65	80
26. Drugs Dispensed by Chemists—1964-65	81
TUBERCULOSIS.	
27. Number of Allowances, Notifications and Mortality—1952 to 1964	81
28. Number of Allowances, Notifications and Mortality—by States—Year Ended 31st December, 1964	81
29. Annual Expenditure—1949-50 to 1964-65	82
30. Results of Mass X-Ray Surveys—by States—Year Ended 31st December, 1964	82
31. Results of Mass X-Ray Surveys—A.C.T. and N.T.—1964-65	82
PUBLIC HEALTH.	
32. Notifiable Diseases in the States of Australia—1964-65	83
33. Poliomyelitis—Number of Confirmed Cases by Age Group—1964-65	84
34. Poliomyelitis—Number of Confirmed Cases by Sex and Month of Occurrence—1964-65	84
35. Poliomyelitis—Number of Confirmed Cases—by States—1956-57 to 1964-65	84
36. Infectious Hepatitis—Cases Notified—by States—1960 to 1964	85
QUARANTINE.	
37. Vessels Boarded and Cleared—by States—1964-65	85
38. Infectious Diseases on Overseas Vessels Arriving in Australia—1964-65	85
39. Animal Importations Subject to Quarantine—1963-64 and 1964-65	86
TERRITORY HEALTH.	
40. Health Services Provided at Main Northern Territory Hospitals—1964-65	86
41. Dental Services Provided in the Northern Territory—1964-65	87
NATIONAL FITNESS.	
42. Allocation of Annual Grant to State National Fitness Councils—1964-65	87
43. Allocation of Annual Grants to State Education Departments—1964-65	88
COMMONWEALTH HEALTH LABORATORIES.	
44. Number of Pathological Examinations and Laboratory Tests Performed and Number of Patients—1964-65	88
NATIONAL BIOLOGICAL STANDARDS LABORATORY.	
45. Summary of All Samples Examined—1964-65	88
46. Safety Tests Performed—1964-65	89
COMMONWEALTH ACOUSTIC LABORATORIES.	
47. Cases Examined—1964-65	89
48. Calaid Hearing Aids Fitted—1964-65	89

CONTENTS—Appendix 1—continued.

Table No.		Page No.
49.	Calaid Hearing Aids Maintained—1964-65	90
	COMMONWEALTH GRANTS.	
50.	Free Milk for School Children—by States—1964-65	90
51.	Free Milk for School Children—1950-51 to 1964-65	90
52.	Mental Health Institutions—by States—1955-56 to 1964-65	91

APPENDIX 2 — PUBLICATIONS

School of Public Health and Tropical Medicine	92
Institute of Child Health	92
National Biological Standards Laboratory	93
Commonwealth Acoustic Laboratories	93
Commonwealth X-Ray and Radium Laboratory	93
Commonwealth Bureau of Dental Standards	94
Institute of Anatomy	94
Central and Divisional Offices	94

APPENDIX 1 — STATISTICS

TABLE 1
DEPARTMENTAL EXPENDITURE—1960-61 TO 1964-65

	YEAR ENDED 30th JUNE				
	1961	1962	1963	1964	1965
	£	£	£	£	£
NATIONAL WELFARE FUND—					
Hospital Benefits	20,668,010	22,202,153	23,663,049	28,107,971	29,395,321
Medical Benefits	9,976,154	10,911,483	11,737,161	12,424,143	17,638,292
Pharmaceutical Benefits	27,881,222	35,189,883	38,455,079	39,419,336	41,101,305
Pensioner Medical Service	4,200,273	4,397,938	4,572,898	4,765,625	4,660,204
Free Milk for School Children	3,560,124	3,741,638	3,727,154	3,887,605	4,029,646
Tuberculosis*	4,179,012	4,332,897	4,873,907	5,236,401	5,072,919
Miscellaneous	1,045,579	847,978	764,528	892,391	1,429,739
TOTAL NATIONAL WELFARE FUND	71,510,374	81,623,970	87,793,776	94,733,472	103,327,426
CONSOLIDATED REVENUE FUND—					
Tuberculosis Capital Reimbursement	410,370	386,579	491,993	299,242	347,875
Administration	690,129	763,430	798,041	880,767	1,043,413
Subsidies and Grants	1,113,880	954,073	925,936	994,709	1,075,764
Quarantine	341,961	381,226	419,156	454,113	539,195
Health Services	1,405,071	1,544,077	2,421,333	2,471,530	2,408,392
Northern Territory	976,081	1,225,939	1,249,880	1,365,967	1,567,901
Australian Capital Territory	520,910	575,688	675,152	725,493	958,050
Capital Works and Services	328,316	630,972	624,222	120,882	434,669
TOTAL CONSOLIDATED REVENUE FUND	5,786,718	6,461,984	7,605,713	7,312,703	8,375,259
SPECIAL CAPITAL GRANTS TO STATES FOR MENTAL HEALTH INSTITUTIONS	727,243	824,216	795,162	797,257	1,251,785
TOTAL EXPENDITURE	78,024,337	88,910,173	96,194,653	102,843,431	112,954,470

Apparent minor errors in totals are due to "rounding off".

*In addition to the amounts shown, allowances are paid by the Department of Social Services—see Table 29 on page 82.

TABLE 2
HOSPITAL BENEFITS
NUMBER OF REGISTERED ORGANIZATIONS, MEMBERSHIP AND COVERAGE—
1952-53 to 1964-65

As at 30th June	No. of Registered Organizations	Membership (a)	Estimated Coverage	Percentage of Population Covered
		000's	000's	Per cent
1953	139	1,500	3,413	39
1954	127	1,865	4,601	51
1955	128	2,111	5,121	56
1956	124	2,247	5,499	59
1957	122	2,373	5,878	61
1958	119	2,514	6,195	63
1959	116	2,749	6,774	68
1960	115	2,908	7,208	72
1961	115	3,044	7,500	72
1962	113	3,130	7,738	73
1963	110	3,176	7,895	73
1964	112	3,286	8,194	74
1965	111	3,407	8,732	77

(a) As advised by the organizations.

TABLE 3
HOSPITAL BENEFITS

NUMBER OF REGISTERED ORGANIZATIONS, MEMBERSHIP AND COVERAGE—
BY STATES—30th JUNE, 1965

State	No. of Registered Organizations	Membership (a)	Estimated Coverage	Percentage of Population Covered
		000's	000's	Per cent
New South Wales ..	32	1,327	3,330	78
Victoria	44	1,007	2,730	85
Queensland	3	309	821	51
South Australia ..	13	382	920	85
West Australia ..	9	268	645	81
Tasmania	10	114	286	77
Commonwealth ..	111	3,407	8,732	77

(a) As advised by the organizations.

TABLE 4
HOSPITAL BENEFITS

BENEFITS PAID TO CONTRIBUTORS BY REGISTERED ORGANIZATIONS—
1952-53 to 1964-65

Year Ended 30th June	No. of Days Fund Benefit Paid	Average Daily Benefit	Percentage of Members Receiving Benefit	Average Stay in Hospital Per Claim
	000's	£ s. d.	Per cent	Days
1953	1,874	10 4	13.4	10.98
1954	3,413	14 0	19.9	10.17
1955	4,642	15 10	23.5	9.92
1956	4,808	18 1	20.8	10.60
1957	5,492	1 3 3	23.3	10.30
1958	6,215	1 6 2	25.6	9.96
1959	7,049	1 7 6	26.9	9.74
1960	8,937	1 6 9	29.4	10.81
1961	9,740	1 8 9	29.7	11.02
1962	10,341	1 11 8	30.9	10.78
1963	10,419	1 14 4	32.1	10.29
1964	9,576	2 4 0	30.7	9.39
1965	9,988	2 8 4	32.5	9.23

TABLE 5
HOSPITAL BENEFITS

BENEFITS PAID TO CONTRIBUTORS BY REGISTERED ORGANIZATIONS—
BY STATES—1964-65

State	No. of Days Fund Benefit Paid	Average Daily Benefit	Percentage of Members Receiving Benefit	Average Stay in Hospital Per Claim
	000's	£ s. d.	Per cent	Days
New South Wales ..	4,309	2 16 7	34.0	9.67
Victoria	2,413	2 0 1	25.6	9.59
Queensland	1,110	1 14 2	39.3	9.48
South Australia ..	1,045	2 7 5	35.4	7.95
West Australia ..	783	2 7 2	39.7	7.74
Tasmania	328	2 14 11	30.9	9.25
Commonwealth ..	9,988	2 8 4	32.5	9.23

TABLE 6
HOSPITAL BENEFITS
AMOUNT OF COMMONWEALTH AND FUND BENEFITS PAID—BY STATES—1964-65

State	COMMONWEALTH				FUND			Total
	Uninsured Patients	Insured Patients	Pensioner Patients	Total	Excluding Ancillary	Ancillary	Total	
	£	£ *	£	£	£	£	£	£
New South Wales ..	437,609	5,137,401	2,689,382	8,264,392	12,185,237	203,532	12,388,769	20,653,161
Victoria	227,900	2,780,593	1,375,168	4,383,661	4,833,767	190,977	5,024,744	9,408,405
Queensland ..	479,970	1,185,108	1,293,683	2,958,761	1,896,515	80,579	1,977,094	4,935,855
South Australia ..	60,837	1,080,536	549,534	1,690,907	2,476,776	186,982	2,663,758	4,354,665
West Australia ..	75,542	876,198	674,732	1,626,472	1,847,328	80,625	1,927,953	3,554,425
Tasmania	25,198	338,539	209,763	573,500	901,246	25,981	927,227	1,500,727
Commonwealth	1,307,056	11,398,375	6,792,262	19,497,693	24,140,869	768,676	24,909,545	44,407,238

*Includes payment of Special Account deficits of £1,788,091.

TABLE 7
HOSPITAL BENEFITS
AMOUNT OF COMMONWEALTH NURSING HOME BENEFIT PAID—BY STATES—1964-65

State				State Nursing Homes	Private Nursing Homes	Total
				£	£	£
New South Wales	..	..	..	776,211	3,245,872	4,022,083
Victoria	..	..	..	1,136,147	1,113,701	2,249,848
Queensland	..	..	..	790,629	747,422	1,538,051
South Australia	..	..	..	182,439	706,531	888,970
West Australia	..	..	..	350,489	516,363	866,852
Tasmania	..	..	..	150,357	181,717	332,074
Commonwealth	..	..	..	3,386,272	6,511,606	9,897,878

TABLE 8
MEDICAL BENEFITS
NUMBER OF REGISTERED ORGANIZATIONS, MEMBERSHIP AND COVERAGE—
1953-54 to 1964-65

As at 30th June				No. of Registered Organizations	Membership (a)	Estimated Coverage	Percentage of Population Covered
					000's	000's	Per cent
1954	..	..	..	79	1,358	3,502	39
1955	..	..	..	80	1,666	4,154	45
1956	..	..	..	82	1,901	4,806	51
1957	..	..	..	81	2,229	5,715	60
1958	..	..	..	81	2,422	6,148	63
1959	..	..	..	82	2,667	6,713	67
1960	..	..	..	83	2,908	7,311	72
1961	..	..	..	83	(b) 2,850	(b) 7,173	(b) 68
1962	..	..	..	82	2,846	7,275	68
1963	..	..	..	78	2,952	7,686	71
1964	..	..	..	81	3,095	8,058	73
1965	..	..	..	80	3,217	8,462	75

(a) As advised by the organizations.

(b) Variation as compared with 30th June, 1960, results from revision of membership figures in one of the major organizations.

TABLE 9
MEDICAL BENEFITS
NUMBER OF REGISTERED ORGANIZATIONS, MEMBERSHIP AND COVERAGE—
BY STATES—30th JUNE, 1965

State	No. of Registered Organizations	Membership (a)	Estimated Coverage	Percentage of Population Covered
		000's	000's	Per cent
New South Wales ..	28	1,280	3,296	77
Victoria	20	916	2,567	80
Queensland	6	309	830	52
South Australia ..	8	349	867	80
West Australia ..	8	254	628	78
Tasmania	10	109	274	74
Commonwealth ..	80	3,217	8,462	75

(a) As advised by the organizations.

TABLE 10
MEDICAL BENEFITS
MEDICAL SERVICES RECEIVED BY CONTRIBUTORS TO REGISTERED ORGANIZATIONS—
FEE-FOR-SERVICE ONLY—1953-54 to 1964-65

Year Ended 30th June	No. of Services Received	Percentage of G.P. to Total	Average No. of Services per Contributor	Average Cost per Service
	000's	Per cent		£ s. d.
1954	3,284	74	3.4	1 8 6
1955	9,453	70	6.2	1 9 1
1956	12,259	71	6.8	1 9 1
1957	13,668	75	6.6	1 11 0
1958	15,582	75	6.7	1 12 5
1959	16,819	75	6.5	1 12 9
1960	19,625	75	7.1	1 13 0
1961	20,123	73	7.3	1 15 7
1962	21,669	72	7.7	1 16 5
1963	23,431	72	8.0	1 16 11
1964	24,308	71	7.8	1 18 6
1965	25,847	70	8.3	2 0 2

TABLE 11
MEDICAL BENEFITS
MEDICAL SERVICES RECEIVED BY CONTRIBUTORS TO REGISTERED ORGANIZATIONS—
FEE-FOR-SERVICE ONLY—BY STATES—1964-65

State	No. of Services Received	Percentage of G.P. to Total	Average No. of Services per Contributor	Average Cost per Service
	000's	Per cent		£ s. d.
New South Wales ..	10,327	70	8.2	2 2 9
Victoria	6,905	72	7.8	1 19 6
Queensland	2,993	71	10.1	1 15 11
South Australia ..	2,911	72	8.6	1 19 0
West Australia ..	2,009	65	8.4	1 17 5
Tasmania	702	64	6.9	2 0 8
Commonwealth ..	25,847	70	8.3	2 0 2

TABLE 12
MEDICAL BENEFITS
COST OF MEDICAL SERVICES TO CONTRIBUTORS TO REGISTERED ORGANIZATIONS—
1953-54 to 1964-65

Year Ended 30th June	Total Cost of Services (fee-for-service and contract)	Percentage of Total Cost Met by — (fee-for-service only)		
		Fund	Commonwealth	Contributor
	£'000's	Per cent	Per cent	Per cent
1954	4,556	31.7	31.4	36.9
1955	13,585	33.9	30.9	35.2
1956	17,638	35.0	30.6	34.4
1957	21,002	34.1	29.3	36.6
1958	24,812	33.9	28.3	37.8
1959	27,309	34.4	28.5	37.1
1960	32,101	35.4	28.2	36.4
1961	35,621	36.0	27.4	36.6
1962	39,250	36.9	27.0	36.1
1963	43,107	37.1	26.6	36.3
1964	46,656	36.8	25.9	37.3
1965	52,312	35.2	32.9	31.9

TABLE 13
MEDICAL BENEFITS
COST OF MEDICAL SERVICES TO CONTRIBUTORS TO REGISTERED ORGANIZATIONS —
BY STATES—1964-65

State	Total Cost of Services (fee- for-service and contract)	Percentage of Total Cost Met by— (fee-for-service only)			Fund Benefit Paid	
		Fund	Commonwealth	Contributor	Excluding Ancillary	Ancillary
	£'000's	Per cent	Per cent	Per cent	£	£
New South Wales	22,141	36.0	31.1	32.9	7,980,482	584,277
Victoria	13,720	31.0	32.2	36.8	4,262,545	124,913
Queensland	5,383	38.4	34.1	27.5	2,067,331	115,150
South Australia	5,677	35.3	36.7	28.0	2,006,627	95,046
West Australia	3,901	39.4	38.3	22.3	1,548,193	46,452
Tasmania	1,490	38.2	33.4	28.4	574,870	32,199
Commonwealth	52,312	35.2	32.9	31.9	18,440,048	998,037

TABLE 14
PENSIONER MEDICAL SERVICE
NUMBER ENROLLED, NUMBER OF SERVICES RECEIVED AND AVERAGE ATTENDANCES PER ENROLLED
PERSON PER ANNUM—1951-52 to 1964-65

Year Ended 30th June	No. of Pensioners and Dependants Enrolled at 30th June	No. of Services Received			Average Number of Services per Enrolled Person
		Surgery	Domiciliary	Total	
	000's	000's	000's	000's	
1952	501	1,228	1,105	2,334	5.0
1953	558	1,671	1,651	3,322	6.2
1954	597	2,076	2,092	4,168	7.2
1955	640	2,375	2,346	4,721	7.6
1956	668	2,669	2,514	5,183	7.9
1957	684	2,778	2,603	5,381	8.0
1958	697	2,992	2,774	5,766	8.3
1959	720	3,462	2,980	6,441	9.0
1960	740	3,763	3,076	6,839	9.4
1961	766	3,866	3,131	6,996	9.4
1962	810	4,139	3,223	7,363	9.3
1963	831	4,278	3,111	7,389	9.0
1964	844	4,406	3,020	7,426	8.9
1965	849	4,389	2,859	7,248	8.6

TABLE 15

PENSIONER MEDICAL SERVICE

NUMBER ENROLLED, NUMBER OF SERVICES RECEIVED AND AVERAGE ATTENDANCES PER ENROLLED PERSON PER ANNUM—BY STATES—1964-65

State	No. of Pensioners and Dependants Enrolled at 30th June	No. of Services Received			Average Number of Services per Enrolled Person
		Surgery	Domiciliary	Total	
	000's	000's	000's	000's	
New South Wales ..	316	1,826	1,142	2,968	9.4
Victoria	220	1,016	836	1,852	8.5
Queensland ..	143	704	321	1,025	7.3
South Australia ..	79	366	323	689	8.8
West Australia ..	61	351	171	522	8.7
Tasmania	30	126	66	192	6.8
Commonwealth	849	4,389	2,859	7,248	8.6

TABLE 16

PENSIONER MEDICAL SERVICE

NUMBER OF PARTICIPATING DOCTORS, PAYMENTS RECEIVED AND AVERAGE ANNUAL PAYMENT PER DOCTOR—1951-52 to 1964-65

Year Ended 30th June	No. of Participating Doctors at 30th June	Payments to Doctors	Average Receipts Per Annum
		£'000's	£
1952	3,502	1,035	310
1953	3,898	1,740	464
1954	4,239	2,115	512
1955	4,567	2,516	566
1956	4,730	2,874	618
1957	4,990	2,999	617
1958	5,243	3,199	625
1959	5,531	3,806	688
1960	5,685	4,113	733
1961	5,861	4,200	728
1962	6,012	4,398	738
1963	6,025	4,573	760
1964	5,899	4,766	799
1965	5,896	4,660	789

TABLE 17

PENSIONER MEDICAL SERVICE

NUMBER OF PARTICIPATING DOCTORS, PAYMENTS RECEIVED AND AVERAGE ANNUAL PAYMENT PER DOCTOR—BY STATES—1964-65

State	No. of Participating Doctors at 30th June	Payments to Doctors	Average Receipts per Annum
		£'000's	£
New South Wales ..	2,340	1,897	818
Victoria	1,640	1,206	701
Queensland	767	650	880
South Australia ..	555	449	830
West Australia ..	428	330	780
Tasmania	166	128	775
Commonwealth	5,896	4,660	789

TABLE 18
PHARMACEUTICAL BENEFITS
COST OF PRESCRIPTIONS—1960-61 to 1964-65

Year Ended 30th June	Payments by Commonwealth			Patient Contribution	Total Cost
	Excluding Pensioners	Pensioners	Total		
	£	£	£	£	£
1961	17,141,248	7,338,349	24,479,597	5,162,370	29,641,967
1962	22,316,244	9,097,498	31,413,742	6,503,888	37,917,630
1963	23,546,513	9,915,375	33,461,888	7,371,224	40,833,112
1964	23,230,499	10,300,857	33,531,356	7,786,902	41,318,258
1965	24,464,874	10,782,210	35,247,084	8,420,677	43,667,761

TABLE 19
PHARMACEUTICAL BENEFITS
COST OF PRESCRIPTIONS—BY STATES—1964-65

State	Payments by Commonwealth			Patient Contribution	Total Cost
	Excluding Pensioners	Pensioners	Total		
	£	£	£	£	£
New South Wales ..	9,736,332	4,546,975	14,283,307	3,379,288	17,662,595
Victoria	7,050,377	2,582,672	9,633,049	2,326,213	11,959,262
Queensland	3,328,653	1,634,992	4,963,645	1,217,537	6,181,182
South Australia ..	2,181,922	993,537	3,175,459	768,173	3,943,632
West Australia ..	1,524,080	735,144	2,259,224	505,572	2,764,796
Tasmania	643,510	288,890	932,400	223,894	1,156,294
Commonwealth	24,464,874	10,782,210	35,247,084	8,420,677	43,667,761

TABLE 20
PHARMACEUTICAL BENEFITS
DISSECTION OF BENEFIT PRESCRIPTION COSTS INTO INGREDIENT COST AND CHEMISTS' REMUNERATION—1960-61 to 1964-65

Year Ended 30th June	Cost of Ingredients and Containers	Chemists' Remuneration	Total Cost
	£	£	£
1961	17,814,281	11,827,686	29,641,967
1962	23,357,245	14,560,385	37,917,630
1963	24,556,448	16,276,664	40,833,112
1964	24,698,886	16,619,372	41,318,258
1965	26,069,387	17,598,374	43,667,761

TABLE 21

PHARMACEUTICAL BENEFITS

DISSECTION OF BENEFIT PRESCRIPTION COSTS INTO INGREDIENT COST AND CHEMISTS' REMUNERATION—BY STATES—1964-65

State	Cost of Ingredients and Containers	Chemists' Remuneration	Total Cost
	£	£	£
New South Wales ..	10,542,182	7,120,413	17,662,595
Victoria	7,240,198	4,719,064	11,959,262
Queensland	3,623,752	2,557,430	6,181,182
South Australia ..	2,293,154	1,650,478	3,943,632
West Australia ..	1,679,371	1,085,425	2,764,796
Tasmania	690,730	465,564	1,156,294
Commonwealth	26,069,387	17,598,374	43,667,761

Cost of ingredients and containers includes payments to chemists for wastages on broken quantities of ready-prepared items.

Chemists' remuneration includes mark up on wholesale price and professional fees, but does not include discount allowed to chemists by wholesalers and manufacturers.

TABLE 22

PHARMACEUTICAL BENEFITS

NUMBER OF PRESCRIPTIONS, AVERAGE COST PER PRESCRIPTION AND AVERAGE COST PER HEAD OF POPULATION—1960-61 to 1964-65

Year Ended 30th June	Number of Prescriptions	Average Cost per Prescription	Average Cost per Head of Population
	000's	s. d.	£ s. d.
1961	31,217	19 0	2 17 0
1962	37,714	20 1	3 12 0
1963	42,192	19 4	3 14 9
1964	44,357	18 7	3 15 1
1965	47,556	18 4	3 19 4

TABLE 23

PHARMACEUTICAL BENEFITS

NUMBER OF PRESCRIPTIONS, AVERAGE COST PER PRESCRIPTION AND AVERAGE COST PER HEAD OF POPULATION—BY STATES—1964-65

State	Number of Prescriptions	Average Cost per Prescription	Average Cost per Head of Population
	000's	s. d.	£ s. d.
New South Wales ..	19,409	18 2	4 5 4
Victoria	12,520	19 1	3 16 5
Queensland	7,104	17 5	3 17 9
South Australia ..	4,325	18 3	3 16 0
West Australia ..	2,943	18 9	3 10 3
Tasmania	1,255	18 5	3 3 0
Commonwealth	47,556	18 4	3 19 4

TABLE 24
PHARMACEUTICAL BENEFITS
PAYMENTS TO HOSPITALS AND MISCELLANEOUS SERVICES—1964-65

Hospitals						Miscellaneous Services*	Total
New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania		
£	£	£	£	£	£	£	£
1,519,905	2,198,146	1,057,063	369,030	381,882	206,841	121,354	5,854,221

*Miscellaneous Services Expenditure
consisted of—

	£
Biological Products and Prophylactic Materials	63,105
Commonwealth Medical Officers and Immigration Medical Service	4,230
Miscellaneous (Including Bush Nursing and Testing Expenses)	54,019
	121,354

TABLE 25
PHARMACEUTICAL BENEFITS
NUMBER OF PHARMACEUTICAL CHEMISTS AND MEDICAL PRACTITIONERS DISPENSING
PHARMACEUTICAL BENEFITS PRESCRIPTIONS—1949-50 to 1964-65

A. *Pharmaceutical Chemists* approved under Section 90 of the *National Health Act* 1953-1964 for the purpose of supplying pharmaceutical benefits.

B. *Medical Practitioners* approved under Section 92 of the *National Health Act* 1953-1964 for the purpose of supplying pharmaceutical benefits in areas in which there are no other pharmaceutical services available.

As at 30th June	New South Wales		Victoria		Queensland		South Australia		Western Australia		Tasmania		Total Common- wealth	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1950.. ..	1,200	2	1,038	6	285	3	265	27	202	12	90	..	3,080	50
1951.. ..	1,252	25	1,054	6	332	4	292	30	208	12	93	7	3,231	84
1952.. ..	1,323	26	1,070	7	348	5	305	29	212	12	95	8	3,353	87
1953.. ..	1,368	29	1,102	8	388	5	329	24	221	10	94	10	3,502	86
1954.. ..	1,452	31	1,170	8	437	6	368	25	232	11	95	11	3,754	92
1955.. ..	1,519	32	1,206	5	476	7	384	20	243	12	95	12	3,923	88
1956.. ..	1,574	31	1,245	6	520	8	396	20	261	11	97	11	4,093	87
1957.. ..	1,615	27	1,284	7	554	8	403	19	270	12	101	11	4,227	84
1958.. ..	1,681	28	1,299	7	571	8	424	18	282	12	111	11	4,358	84
1959.. ..	1,763	30	1,348	6	603	9	433	16	292	11	113	12	4,552	84
1960.. ..	1,818	29	1,383	6	645	9	436	17	296	10	118	12	4,696	83
1961.. ..	1,877	34	1,402	6	676	7	449	14	311	7	123	12	4,838	80
1962.. ..	1,933	36	1,414	6	696	6	459	13	312	6	127	11	4,941	78
1963.. ..	2,008	32	1,445	6	721	7	470	14	325	7	131	10	5,100	76
1964.. ..	2,065	31	1,482	7	750	6	474	12	338	8	134	12	5,243	76
1965.. ..	2,101	32	1,520	7	775	5	487	10	354	8	138	12	5,375	74

TABLE 26
PHARMACEUTICAL BENEFITS
DRUGS DISPENSED BY CHEMISTS—1964-65
(Benefits dispensed in hospitals are excluded)

Therapeutic Category								Percentage of Total Expenditure	Percentage of Total Prescriptions
								Per cent	Per cent
Board Spectrum Antibiotics	..	..	..	..	..	..	..	16.2	8.3
Penicillins	..	..	..	..	..	..	..	11.5	8.9
Analgesics	..	..	..	..	..	..	..	6.2	8.0
Diuretics non-mercurial	..	..	..	..	..	..	..	6.0	3.6
Hypnotics	..	..	..	..	..	..	..	7.3	12.6
Blood Vessels, drugs acting	..	..	..	..	..	..	..	7.7	5.0
Anti-Histamines	..	..	..	..	..	..	..	4.8	4.8
Sulphonamides	..	..	..	..	..	..	..	2.3	2.9
Antacids	..	..	..	..	..	..	..	1.6	2.6
Expectorants and Cough Suppressants	..	..	..	..	..	..	..	1.3	2.6
Other Drugs	..	..	..	..	..	..	..	35.1	40.7

TABLE 27
TUBERCULOSIS
NUMBER OF ALLOWANCES, NOTIFICATIONS AND MORTALITY—1952 to 1964

Year Ended 31st December				Number of Allowances Current	Notifications			Deaths		
					Number Pulmonary	Number All Forms	Incidence per 100,000 All Forms	Number Pulmonary	Number All Forms	Per 100,000 All Forms
1952	..	..	..	6,127	4,761	4,786	54.8	1,165	1,290	14.8
1953	..	..	..	5,696	4,787	4,979	55.9	879	974	10.9
1954	..	..	..	5,742	4,650	4,952	54.5	823	897	9.9
1955	..	..	..	5,029	4,360	4,602	49.4	672	729	7.8
1956	..	..	..	4,182	4,169	4,419	46.4	663	724	7.6
1957	..	..	..	3,326	3,762	4,035	41.4	543	585	6.0
1958	..	..	..	2,750	3,632	3,708	37.2	501	538	5.4
1959	..	..	..	2,503	3,160	3,582	35.2	509	549	5.4
1960	..	..	..	2,235	3,556	4,084	39.2	447	489	4.7
1961	..	..	..	2,017	3,239	3,570	34.0	412	447	4.3
1962	..	..	..	1,845	3,503	3,825	35.3	448	475	4.4
1963	..	..	..	1,796	3,574	3,883	35.2	410	440	4.0
1964	..	..	..	1,573	3,113	3,446	30.6	388	413	3.7

TABLE 28
TUBERCULOSIS
NUMBER OF ALLOWANCES, NOTIFICATIONS AND MORTALITY—BY STATES—
YEAR ENDED 31st DECEMBER, 1964

State				Number of Allowances Current	Notifications			Deaths		
					Number Pulmonary	Number All Forms	Incidence per 100,000 All Forms	Number Pulmonary	Number All Forms	Per 100,000 All Forms
New South Wales	..	..	..	551	1,165	1,254	30.2	163	168	4.0
Victoria	..	..	..	276	679	820	25.9	109	121	3.8
Queensland	..	..	..	459	818	843	52.9	72	75	4.7
South Australia	..	..	..	128	147	177	16.9	10	11	1.1
West Australia	..	..	..	80	143	172	21.5	20	20	2.5
Tasmania	..	..	..	79	82	96	25.6	7	11	2.9
Aust. Capital Territory	..	..	..	*	7	10	11.8	1	1	1.2
Northern Territory	..	..	..	†	72	74	154.3	6	6	12.5
Commonwealth	..	..	..	1,573	3,113	3,446	30.6	388	413	3.7

*Included in New South Wales figures.

†Included in South Australia figures.

TABLE 29
TUBERCULOSIS
ANNUAL EXPENDITURE—1949-50 to 1964-65

Year Ended 30th June									Capital Reimburse- ments to States	Maintenance Reimburse- ments to States	Allowances Paid to Sufferers	Total
									£	£	£	£
1950	..	..	..	..	..	..	..	..	236,179	346,142	..	582,321
1951	..	..	..	..	..	..	..	..	404,600	943,554	1,344,891	2,693,045
1952	..	..	..	..	..	..	..	..	645,131	2,114,291	1,777,620	4,537,042
1953	..	..	..	..	..	..	..	..	1,163,439	2,982,321	1,907,945	6,053,705
1954	..	..	..	..	..	..	..	..	1,295,476	3,738,885	1,876,582	6,910,943
1955	..	..	..	..	..	..	..	..	1,710,812	3,800,578	1,904,467	7,415,857
1956	..	..	..	..	..	..	..	..	1,747,722	4,050,581	1,689,774	7,488,077
1957	..	..	..	..	..	..	..	..	2,378,647	4,805,003	1,460,650	8,644,300
1958	..	..	..	..	..	..	..	..	2,128,462	4,569,215	1,254,693	7,952,370
1959	..	..	..	..	..	..	..	..	1,411,062	4,844,106	1,062,609	7,317,777
1960	..	..	..	..	..	..	..	..	729,236	4,376,256	1,025,473	6,130,965
1961	..	..	..	..	..	..	..	..	388,018	4,236,687	946,446	5,571,151
1962	..	..	..	..	..	..	..	..	378,095	4,400,034	872,853	5,650,982
1963	..	..	..	..	..	..	..	..	491,993	4,965,910	803,516	6,261,419
1964	..	..	..	..	..	..	..	..	299,242	5,334,725	796,667	6,430,634
1965	..	..	..	..	..	..	..	..	351,421	5,168,267	728,911	6,248,599
Total									15,759,535	60,676,555	19,453,097	95,889,187

TABLE 30
TUBERCULOSIS
RESULTS OF MASS X-RAY SURVEYS—BY STATES—
YEAR ENDED 31st DECEMBER, 1964

State		Number Examined	Number Active T.B.	Rate per 1,000	No. In- active T.B.	Rate per 1,000	Suspect Active T.B. at 31.12.64	Rate per 1,000
New South Wales	..	895,349	252	0.28	4,548	5.08	109	0.12
Victoria		427,306	286	0.67	1,641	3.84	..	..
Queensland		312,597	263	0.84	2,907	9.29	2,467	7.89
South Australia		141,591	34	0.24	1,280	9.04	34	0.24
West Australia		85,850	24	0.28	75	0.87	9	0.10
Tasmania		116,723	43	0.37	72	0.61	14	0.11
Commonwealth		1,979,416	902	0.46	10,523	5.31	2,633	1.33

TABLE 31
TUBERCULOSIS
RESULTS OF MASS X-RAY SURVEYS—A.C.T. AND N.T.
1964-65

Territory			Number Examined	Number Active T.B.	Rate per 1,000	Number Inactive T.B.	Rate per 1,000
A.C.T.	..	..	40,446	2	0.05	43	1.06
N.T.	..	..	8,171	6	0.75	107	13.37

TABLE 32
PUBLIC HEALTH
NOTIFIABLE DISEASES IN THE STATES OF AUSTRALIA 1964-65 †

Disease	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	A.C.T.	N.T.	Aust.
Acute Encephalitis	—	—	—	—	—	—	—	—	—
Acute Rheumatism	47	48	123	—	4	27	2	7	258
Amoebiasis	*	3	57	—	4	—	—	2	66
Ancylostomiasis	61	—	116	—	39	—	—	313	529
Anthrax	*	—	—	—	—	—	—	—	—
Bilharziasis	*	1	—	—	—	—	—	—	1
Breast Abscess	—	24	21	*	*	*	—	*	45
Brucellosis	22	26	15	—	2	—	—	—	65
Chorea (St. Vitus Dance)	3	—	—	—	—	*	—	—	3
Dengue	—	—	—	—	—	*	—	—	—
Diarrhoea, Infantile	646	708	180	14	25	15	21	98	1,707
Diphtheria	5	28	2	—	2	3	—	1	41
Dysentery, Bacillary	*	65	36	53	193	1	4	108	460
Erythema Nodosum	*	13	—	2	—	*	—	—	15
Encephalitis	93	36	11	4	—	—	—	1	145
Filariasis	*	—	2	—	—	—	—	—	2
Homologous S. Jaundice	*	—	*	—	—	*	—	—	—
Hydatid	*	19	1	—	4	22	—	—	46
Infective Hepatitis	2,956	2,417	802	349	109	294	27	56	7,010
Influenza	*	*	*	—	*	*	*	*	—
Lead Poisoning	*	*	7	—	—	*	—	—	7
Leprosy	—	—	6	—	15	—	—	54	75
Leptospirosis	10	—	100	2	9	*	—	—	121
Leukaemia	*	19	*	*	*	*	—	—	19
Malaria	*	19	41	1	4	—	2	5	72
Meningococcal Infection	60	52	126	6	—	9	3	2	258
Ophthalmia	*	*	*	1	14	—	10	—	25
Ornithosis	2	—	2	—	—	*	—	—	4
Paratyphoid	3	1	3	1	—	5	—	—	13
Poliomyelitis	8	1	8	1	—	—	—	—	18
Puerperal Fever	69	7	32	5	2	—	1	12	128
Q Fever	*	*	281	*	*	*	*	*	281
Rubella	*	1,495	55	745	230	105	55	12	2,697
Salmonella Infection	*	*	*	141	71	*	7	14	233
Scarlet Fever	475	550	93	164	42	869	10	—	2,203
Staph Disease (Infantile)	798	17	3	*	*	*	*	*	818
Tetanus	*	3	27	6	5	—	—	—	41
Trachoma	*	—	*	20	94	*	—	11	125
Trichinosis	*	*	*	—	—	*	—	—	—
Tuberculosis	1,174	924	870	131	239	87	14	89	3,528
Typhoid Fever	3	5	1	1	3	1	1	5	20
Typhus—(flea, mite or tick borne)	3	—	5	—	1	—	—	—	9

*Not Notifiable —No Cases

REMARKS: No case of Cholera, Plague, Smallpox, Epidemic Typhus or Yellow Fever.

† The figures shown in this table are the number of cases notified by individual medical practitioners to State Health Departments. Details of the cases of poliomyelitis confirmed are given in Tables 33 to 35 on page 84.

TABLE 33
PUBLIC HEALTH
POLIOMYELITIS—NUMBER OF CONFIRMED CASES—BY AGE GROUP—1964-65

Age Group															Number
0- 1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
1- 4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
5- 9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10-14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15-19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20-24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25-29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
30-34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35-39	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40-49	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
50-59	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
60 and Over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not Stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
TOTAL	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3*

TABLE 34
PUBLIC HEALTH
POLIOMYELITIS—NUMBER OF CONFIRMED CASES—BY SEX AND MONTH OF OCCURRENCE—1964-65

Month												Male	Female	Total
July	..	..	..	..	..	..	..	..	..	..	..	..	..	..
August	..	..	..	..	..	..	..	..	..	..	..	..	..	..
September	..	..	..	..	..	..	..	..	..	..	1	..	..	1
October	..	..	..	..	..	..	..	..	..	..	..	..	..	..
November	..	..	..	..	..	..	..	..	..	..	..	..	..	..
December	..	..	..	..	..	..	..	..	..	..	..	..	..	..
January	..	..	..	..	..	..	..	..	..	..	..	..	..	..
February	..	..	..	..	..	..	..	..	..	..	..	..	..	..
March	..	..	..	..	..	..	..	..	..	..	1	..	..	1
April	..	..	..	..	..	..	..	..	..	..	..	..	..	..
May	..	..	..	..	..	..	..	..	..	..	1	..	..	1
June	..	..	..	..	..	..	..	..	..	..	..	..	..	..
TOTAL	..	..	..	..	..	..	..	..	..	..	3	..	..	3*

TABLE 35
PUBLIC HEALTH
POLIOMYELITIS—NUMBER OF CONFIRMED CASES—BY STATES—1956-57 to 1964-65

State	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65
New South Wales	82	21	18	17	8	367	5	2	3
Victoria	62	3	78	10	80	21	11	19	..
Queensland	36	3	3	4	19	157	..	..	..
South Australia	61	5	1	7	22	19	17	2	..
Western Australia	12	2	1	6	..	6	2	2	..
Tasmania	37	3	1	2	46	..	..	..	..
Australian Capital Territory	..	..	..	..	..	..	..	..	..
Northern Territory	..	..	..	14	3	2	..	..	..
Commonwealth	290	37	102	60	178	572	35	25	3*

* Since going to press a further case, of a male aged twelve months, contracted in N.S.W., in June, 1965, has since been confirmed, making a total of four.

TABLE 36
PUBLIC HEALTH
INFECTIOUS HEPATITIS—CASES NOTIFIED—BY STATES—1960 to 1964

State	1960	1961	1962	1963	1964*
New South Wales	4,924	6,025	3,358	2,822	2,667
Victoria	2,385	3,515	3,533	3,840	2,705
Queensland	719	1,022	885	1,433	1,148
South Australia	1,121	1,406	504	293	277
Western Australia	256	262	117	145	101
Tasmania	44	304	630	856	638
Australian Capital Territory	88	281	88	20	12
Northern Territory	23	61	100	104	57
Commonwealth	9,560	12,876	9,215	9,513	7,605

*Figures in this column are subject to confirmation.

TABLE 37
QUARANTINE
VESSELS BOARDED AND CLEARED—BY STATES—1964-65

State	Surface			Air		
	Vessels	Crew	Passengers	Vessels	Crew	Passengers
New South Wales	1,091	68,475	48,871	1,372	16,677	91,793
Victoria	424	25,356	22,328	71	669	547
Queensland	710	34,509	7,586	172	1,633	7,600
South Australia	291	17,715	10,458	8	62	394
West Australia	723	68,019	130,984	355	4,058	23,424
Tasmania	58	2,748	46	..	..	..
Northern Territory	62	3,407	82	958	8,467	64,275
Total	3,359	220,229	220,355	2,936	31,566	188,033

TABLE 38
QUARANTINE
INFECTIOUS DISEASES ON OVERSEAS VESSELS ARRIVING IN AUSTRALIA—1964-65

Disease	No. of Cases
Chickenpox	114
Infectious Hepatitis	9
Measles	188
Meningitis	1
Mumps	13
Poliomyelitis	1
Pulmonary Tuberculosis	6
Rubella	13
Scarlet Fever	1
Veneral Disease—	
Gonorrhoea	5
Other	1
Total	352

TABLE 39
QUARANTINE
ANIMAL IMPORTATIONS SUBJECT TO QUARANTINE
1963-64 and 1964-65

Type	Number	
	1963-64	1964-65
Horses—from the United Kingdom	49	33
New Zealand	635	774
Dogs and Cats—from the United Kingdom	597	661
New Zealand	218	220
Small laboratory animals for scientific institutions	240	166
Monkeys from Malaysia and the United States of America for Commonwealth Serum Laboratories ..	1,875	1,168
Animals for permanent quarantine in registered zoological gardens and circuses	356	566
Total	3,970	3,588

TABLE 40
TERRITORY HEALTH
HEALTH SERVICES PROVIDED AT MAIN NORTHERN TERRITORY HOSPITALS—1964-65

	Darwin	Alice Springs	Tennant Creek	Katherine	Batchelor
Total Number of Daily Occupied Beds	89,427	38,133	5,114	8,745	..
Total Number of Admissions	6,463	2,761	855	957	..
Average Number of Daily Patients	245	104.4	14.3	24	..
Total Number of Births	666	272	46	93	..
Total Number of Deaths in Hospital	108	133	13	14	..
Total Number of P.M. Examinations	101	40	12	13	..
Total Number of Major Operations	642	181	..	..	..
Total Number of Minor Operations	2,446	661	97	284	..
Total Number of Outpatients Treated	77,152*	24,065	9,506	8,700	1,337† 4,487‡
Dispensaries—					
Prescriptions Dispensed	43,977	18,815	4,026	4,395	..
Daily Average of Prescriptions Dispensed per Working Day	175	73	16	15	..
X-Ray Department—					
Number of Examinations (O.P.)	8,343	2,834	580	317	..
Number of Exposures	19,188	4,588	1,061	483	..
Ambulance Services—					
Number of Trips	2,604	717	109	170	..
Number of Patients Carried	3,766	850	154	230	..
Number of Miles Travelled	37,452	22,187	14,915	14,717	..
Physiotherapy Department—					
Number of Patients	849	485	..	..	..
Number of Treatments	4,317	1,747	..	..	..

*Including Bagot.

†Doctor's Clinic.

‡Daily Clinic.

TABLE 41
TERRITORY HEALTH
DENTAL SERVICES PROVIDED IN THE NORTHERN TERRITORY—1964-65

	Darwin Dental Clinic	Aerial Mobile (operating from Darwin)	Overland Mobile (operating from Darwin)	Darwin Schools	Alice Springs (including Mobiles and Schools)	Nightcliff Clinic
Examinations	5,020	1,352	4,555	401	1,910	165
Extractions	3,771	593	1,293	31	1,704	17
Porcelain Restoration	730	..	204	61	235	7
Amalgam Restoration	4,656	685	1,122	414	1,246	11
Inlays	143	..	20	..	31	..
Crowns	42	..	3	..	20	..
Bridges	26	..	1	..	4	..
Dressings	747	4	44	13	264	4
X-rays	580	..	26	254	287	17
G.A.'s Hospital	78	..	23	..	50	..
Root treatment	55	..	..	..	8	..
Scale and clean	153	..	83	1	98	2
Infective gingivitis	7	..	4	..	8	..
Orthodontist	56	..	1	..	87	1
Oral surgery	94	..	12	..	36	..
Jaw fracture	14	..	..	..	8	..
Other treatment	2,746	35	591	12	1,241	7
Dentures, full	184	..	86	..	190	2
Dentures, part	151	..	53	..	78	1
Dentures, repair	606	..	69	..	280	..
Dentures, remodel	59	..	27	..	56	..
Alveolar osteitis	..	..	..	..	5	..
Total	19,918	2,669	8,217	1,187	7,846	234

TABLE 42
NATIONAL FITNESS
ALLOCATION OF ANNUAL GRANT TO STATE NATIONAL FITNESS COUNCILS—1964-65

Item	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Totals
	£	£	£	£	£	£	£
Wages, salaries, allowances, overtime and services not otherwise provided for	3,050	3,050	2,615	2,615	2,615	2,615	16,560
Services to associated groups including leader training	3,490	3,490	2,615	2,615	2,615	2,615	17,440
Grants to voluntary youth organizations	870	870	768	768	768	448	4,492
Subsidies to local national fitness committees	1,310	1,310	1,142	1,142	1,142	675	6,721
Services to sports organizations	423	423	260	260	260	175	1,801
Development of camps and hostels	3,490	3,490	2,615	2,615	2,615	2,615	17,440
Totals	12,633	12,633	10,015	10,015	10,015	9,143	64,454

TABLE 43
NATIONAL FITNESS
ALLOCATION OF ANNUAL GRANT TO STATE EDUCATION DEPARTMENTS—1964-65

Item	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Totals
	£	£	£	£	£	£	£
Training of general teachers in physical education—							
(a) Short courses	500	500	500	300	300	300	2,400
(b) Residential courses	500	500	500	500	500	500	3,000
Provision of bursaries to enable selected teachers to undertake university courses	..	..	..	600	600	600	1,800
Development of health and physical education in practising schools and teachers colleges—							
(a) Equipment	300	300	300	200	200	200	1,500
(b) Camps for teachers college students	250	250	250	150	150	150	1,200
Publications, films, records, &c.	484	484	483	483	483	483	2,900
Development of school camping and hostelling—							
(a) Equipment of camps and schools	500	500	500	400	400	400	2,700
(b) School camping and hostelling	300	300	300	200	200	200	1,500
Totals	2,834	2,834	2,833	2,833	2,833	2,833	17,000

TABLE 44
COMMONWEALTH HEALTH LABORATORIES
NUMBER OF PATHOLOGICAL EXAMINATIONS AND LABORATORY TESTS PERFORMED
AND NUMBER OF PATIENTS—1964-65

Health Laboratory	Examinations and Tests (Nuffield Points Score)	No. of Patients
Albury	90,896	17,173
Alice Springs	43,894	8,676
Bendigo	133,445	22,006
Cairns	248,616	38,031
Canberra	416,080	86,235
Darwin	133,306	32,751
Hobart	112,322	14,377
Kalgoorlie	51,411	10,010
Launceston	58,013	11,975
Lismore	186,756	32,106
Port Pirie	31,040	8,814
Rockhampton	277,461	44,541
Tamworth	182,507	28,403
Toowoomba	197,729	28,601
Townsville	326,329	51,226
Total	2,489,805	434,925

TABLE 45
NATIONAL BIOLOGICAL STANDARDS LABORATORY
SUMMARY OF ALL SAMPLES EXAMINED
1964-65

Type	Number Examined	Failures	Percentage of Failures
			Per cent
Therapeutic Substances Act—Official Samples	738	235	31.8
National Health Scheme—Pharmaceutical (Benefit) Samples	325	72	22.1
Other Departments and Authorities	219	54	24.7
Item 28A—Customs (Prohibited Imports) Regulations and Miscellaneous Samples	41	22	53.7
Total	1,323	383	28.9

TABLE 46
NATIONAL BIOLOGICAL STANDARDS LABORATORY
SAFETY TESTS PERFORMED
1964-65

Type	Number Examined	Passed	Failed	Suspected Failures not Confirmed
Sterility—				
Standard Test Technique	350	344	6	2
Millipore Technique	69	69	..	2
Histamine-like Substances	53	53	..	..
Toxicity	48	48	..	..
Pyrogens	224	224	..	..

TABLE 47
COMMONWEALTH ACOUSTIC LABORATORIES
CASES EXAMINED—1964-65

New Cases Attending Laboratories	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Aust.
Repatriation	1,658	515	556	324	355	40	3,448
Children	1,407	859	1,159	781	430	339	4,975
Miscellaneous	45	152	310	73	127	58	765
Social Services	5	3	..	..	6	1	15
Army	161	23	80	13	1	48	326
R.A.A.F.	5	6	4	6	12	138	171
Navy	77	17	..	3	7	156	260
Directors of Health	84	85	7	33	6	5	220
Commonwealth Compensation	41	31	23	16	6	1	118
State Compensation	3	10	159	1	1	..	174
Total	3,486	1,701	2,298	1,250	951	786	10,472
Civil Aviation Referrals	302	392	125	92	76	9	996

TABLE 48
COMMONWEALTH ACOUSTIC LABORATORIES
CALAID HEARING AIDS FITTED—1964-65

Calais Fitted	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Aust.
Repatriation	441	450	233	196	144	32	1,496
Children	229	226	95	88	39	20	697
Health	..	1	..	12	..	2	15
Adolescents	14	6	5	3	4	..	32
Social Services	2	..	..	..	1	1	4
Army	6	4	..	2	..	..	12
R.A.A.F.	1	1	..	..	..	..	2
Navy	..	..	..	..	..	..	..
Total	693	688	333	301	188	55	2,258

TABLE 49
COMMONWEALTH ACOUSTIC LABORATORIES
CALAID HEARING AIDS MAINTAINED—1964-65

Cal aids Maintained								N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Aust.
Repatriation	..	..	..	..	..	..	..	4,031	3,836	1,633	1,455	1,322	389	12,666
Health	..	..	..	..	..	..	..	1,094	566	423	326	222	85	2,716
Children	..	..	..	..	..	..	..	1,548	1,515	715	640	376	204	4,998
Social Services	..	..	..	..	..	..	..	10	11	1	1	3	4	30
Army	..	..	..	..	..	..	..	24	11	8	5	2	..	50
R.A.A.F.	..	..	..	..	..	..	..	3	5	2	2	..	..	12
Navy	..	..	..	..	..	..	..	3	2	..	..	..	..	5
Total	..	..	..	..	..	..	..	6,713	5,946	2,782	2,429	1,925	682	20,477

TABLE 50
COMMONWEALTH GRANTS
FREE MILK FOR SCHOOL CHILDREN—BY STATES—1964-65

State											No. of Children*	Payments
											As at 30th June, 1965	1964-65
											000's	£
New South Wales	..	..	..	..	..	..	..	..	..	..	594	1,438,034
Victoria	..	..	..	..	..	..	..	..	..	..	453	1,033,067
Queensland	..	..	..	..	..	..	..	..	..	..	249	605,649
South Australia	..	..	..	..	..	..	..	..	..	..	165	378,478
West Australia	..	..	..	..	..	..	..	..	..	..	134	318,601
Tasmania	..	..	..	..	..	..	..	..	..	..	61	190,124
Australian Capital Territory	..	..	..	..	..	..	..	..	..	..	14	29,802
Northern Territory	..	..	..	..	..	..	..	..	..	..	8	35,892
Total	..	..	..	..	..	..	..	..	..	..	1,678	4,029,646

*These figures represent the approximate number of school children eligible to participate in the Free Milk Scheme.

TABLE 51
COMMONWEALTH GRANTS
FREE MILK FOR SCHOOL CHILDREN—1950-51 to 1964-65

Year						Commonwealth Grant	Year						Commonwealth Grant
						£							£
1950-51	..	..	..	..	..	35,775	1957-58	..	..	..	..	..	2,755,602
1951-52	..	..	..	..	..	814,806	1958-59	..	..	..	..	..	3,068,636
1952-53	..	..	..	..	..	1,521,394	1959-60	..	..	..	..	..	3,359,369
1953-54	..	..	..	..	..	1,999,312	1960-61	..	..	..	..	..	3,560,124
1954-55	..	..	..	..	..	2,237,425	1961-62	..	..	..	..	..	3,741,638
1955-56	..	..	..	..	..	2,405,349	1962-63	..	..	..	..	..	3,727,154
1956-57	..	..	..	..	..	2,607,040	1963-64	..	..	..	..	..	3,887,605
							1964-65	..	..	..	..	..	4,029,646

TABLE 52

COMMONWEALTH GRANTS

MENTAL HEALTH INSTITUTIONS—BY STATES—1955-56 to 1964-65

				N.S.W.	Victoria	Qld.	South Australia	Western Australia	Tasmania	C/wealth
				£	£	£	£	£	£	£
1955-56										
Commonwealth Grant	..	..	..	208,763	445,746	66,588	12,245	9,985	29,822	773,149
Net State Expenditure	..	..	..	417,527	891,493	133,176	24,490	19,968	59,645	1,546,299
Total Expenditure	..	..	..	626,290	1,337,239	199,764	36,735	29,953	89,467	2,319,448
1956-57										
Commonwealth Grant	..	..	..	383,555	527,213	88,068	128,467	51,855	68,974	1,248,132
Net State Expenditure	..	..	..	767,111	1,054,426	176,135	256,933	103,710	137,949	2,496,264
Total Expenditure	..	..	..	1,150,666	1,581,639	264,203	385,400	155,565	206,923	3,744,396
1957-58										
Commonwealth Grant	..	..	..	324,152	545,365	114,103	152,159	29,236	91,384	1,256,399
Net State Expenditure	..	..	..	648,303	1,090,730	228,208	304,317	58,473	182,767	2,512,798
Total Expenditure	..	..	..	972,455	1,636,095	342,311	456,476	87,709	274,151	3,769,197
1958-59										
Commonwealth Grant	..	..	..	196,831	619,621	118,512	122,328	17,210	45,892	1,120,394
Net State Expenditure	..	..	..	393,661	1,239,241	237,024	244,655	34,421	91,785	2,240,787
Total Expenditure	..	..	..	590,492	1,858,862	355,536	366,983	51,631	137,677	3,361,181
1959-60										
Commonwealth Grant	..	..	..	359,060	518,235	74,613	91,770	36,799	66,995	1,147,472
Net State Expenditure	..	..	..	718,121	1,036,469	149,226	183,540	73,598	133,989	2,294,943
Total Expenditure	..	..	..	1,077,181	1,554,704	223,839	275,310	110,397	200,984	3,442,415
1960-61										
Commonwealth Grant	..	..	..	432,881	83,820	97,642	45,691	15,276	51,933	727,243
Net State Expenditure	..	..	..	865,761	167,641	195,285	91,382	30,551	103,865	1,454,485
Total Expenditure	..	..	..	1,298,642	251,461	292,927	137,073	45,827	155,798	2,181,728
1961-62										
Commonwealth Grant	..	..	..	648,637	..	70,718	27,839	77,022	..	824,216
Net State Expenditure	..	..	..	1,297,275	..	141,433	55,679	154,045	..	1,648,432
Total Expenditure	..	..	..	1,945,912	..	212,151	83,518	231,067	..	2,472,648
1962-63										
Commonwealth Grant	..	..	..	647,562	..	37,593	52,112	57,894	..	795,161
Net State Expenditure	..	..	..	1,295,123	..	75,187	104,224	115,789	..	1,590,323
Total Expenditure	..	..	..	1,942,685	..	112,780	156,336	173,683	..	2,385,484
1963-64										
Commonwealth Grant	..	..	..	491,089	..	54,083	86,293	165,792	..	797,257
Net State Expenditure	..	..	..	982,179	..	108,165	172,587	331,584	..	1,594,515
Total Expenditure	..	..	..	1,473,268	..	162,248	258,880	497,376	..	2,391,772
1964-65										
Commonwealth Grant	..	..	..	329,669	355,689	112,314	132,392	223,264	98,458	1,251,785
Net State Expenditure	..	..	..	659,339	711,377	224,627	264,784	446,527	196,916	2,503,570
Total Expenditure	..	..	..	989,008	1,067,066	336,941	397,176	669,791	295,374	3,755,355

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